federal register

WEDNESDAY, SEPTEMBER 1, 1976

PART V:

FEDERAL POWER COMMISSION

■

REPORT OF GENERATING PLANT, TECHNICAL, ENVIRONMENTAL AND OPERATING DATA

New Form No. 156

FEDERAL POWER COMMISSION

[18 CFR Part 141]

[Docket No. RM76-32]

REPORT OF GENERATING PLANT, TECHNICAL, ENVIRONMENTAL AND OPERATING DATA—NEW FORM NO. 156

Proposed Rulemaking

AUGUST 23, 1976.

Notice is hereby given pursuant to the Administrative Procedure Act, 5 U.S.C. 553, and Sections 10, 19, 20, 202, 205, 206, 207, 304, 309 and 311 of the Federal Power Act,[1] that the Commission proposes to add Section 141.68 to Part 141 of the Approved Forms under the Federal Power Act to provide that new FPC Form No. 156 be required for reporting. The proposed new form would be entitled "Report of Generating Plant, Technical, Environmental, and Operating Data."

During a period of critical energy needs, such as the nation is experiencing today, the public interest requires that the Commission have available to it current and continuing information on the operations of electric utilities generating electricity. The interests of those companies regulated by the Commission also require an efficient and progressive means of regulation.

On September 26, 1973, in Docket No. R-438, the Commission issued Order No. 494, amending Part 2, Chapter I, Title 18 of the Code of Federal Regulations and setting forth Commission policy for the development of a fully automated computer regulatory system to provide such information. When developed and fully operative, the system will provide prompt and ready access to data contained in a central electronic data bank, eliminating the duplication of information now collected and reducing the quantity of existing manual files. This system will not only facilitate the evaluation and analysis of all data, but it will also accommodate the development of new regulatory techniques.

In Order No. 494, the Commission stated that all existing "hard copy" public use forms would be redesigned and consolidated to eliminate redundancies and that instructions for reporting would be clarified by use of Electronic Data Processing (EDP) Technology. Public use form information, as it is presently submitted, will be replaced by the submission of individual data elements within a general data element and code scheme. It is anticipated that this major system revision will result in the reduction of the total number of data items currently transmitted to the Commission by the respondents.

In Order No. 494, the Commission further stated that the development of the automated computer information system would be effected through the use of phased rulemaking proceedings in which various Commission reporting procedures and report forms would be restructured. To this end, Form No. 156 is designed to incorporate into a readily retrievable data processing system some of the information currently elicited by FPC Form Nos. 1[2], 1F[3], 1M[4], 4[5], 4A[6], 12[7], 12A[8], 12D[9], 67[10], and 423[11].

It is anticipated that a one-year period of parallel reporting will be required for system evaluation. Assuming successful operation of the new system within such time period, the related schedules within the current FPC Form Nos. 1, 1F, 1M, 4, 4A, 12, 12A, 12D, 67, and 423 would then be eliminated for these respondents.

Proposed Form No. 156 would consist of 59 schedules to be numbered as follows: 601, 603–623, 625–638, 641–645, 647–660, 665, 854–855 and 857.

The data collected on Schedules 601, 603–605, 607–615, 630–634, 637, 638, 641–645, and 660 would provide the Commission with information currently submitted on Form Nos. 1, 1F, 1M, 12, 12A, and 12D, on plant construction cost and annual production expenses of nuclear, hydro, combined cycle, internal combustion, gas turbine, and pumped storage electric generating plants. The schedules would also provide data on plant design, plant and unit additions, jointly owned plants and units, plants and units under construction, and plant and unit retirements. There would be some instructional changes in the new schedules. Otherwise, no new data would be required.

Schedule 606 would collect plant dependable hydroelectric capacity and potential energy. The data to be collected on Schedules 616–629, and 649–659 include environmentally related information about the design and operating of steam-electric plants having an installed generating capacity of 25 megawatts or greater. The new data to be required by Schedules 616 and 617 (relating to boilers serviced by common fuel feeder systems), by Schedules 618–620 (relating to the design relationship between boilers and stacks), and by Schedules 622 and 623 (relating to the design relationship between boilers and flue gas cleaning equipment) would be reported only once. Follow-up reports would be required only to reflect changes to data previously submitted. The information to be reported on Schedules 625 and 626 (relating to the operation of plant cooling systems) and on Schedules 650 and 651 (relating to monthly and annual boiler operation, including fuel usages) would be required annually. Data similar to that required by these proposed schedules is currently filed on Form No. 67. The collection of this information in this new format would provide the Commission with a greater understanding of the operating practices of steam-electric plants for use in assessing their environmental impact.

Schedule 635 would provide monthly information on net generation, fossil fuel consumption, and stocks from all electric utility power plants as is currently reported on Form Nos. 4 and 4A. It is proposed that the respondents be provided with a printed record of data currently in the Commission files on plant codes, generating type, fuel type, and installed generating capacity. Plant code, generating type, and fuel type are to be entered by the respondent onto the schedule for identification. No new significant data would be required, with the exception of the following: the magnitude of the units for reporting certain data would be changed (for example: KWH to MWH; tons to 1,000's of tons); the data item lists would be expanded to allow more explicit utilization of data base; and, plant status which was previously included in the general instructions would be submitted by the respondents in a specified data field.

The data to be collected monthly on Schedule 636 would deal with the cost and quality of fossil fuels delivered to electric power plants having a combined steam electric combustion turbine and internal combustion engine capacity of 25 megawatts or more. Specifically, the new information to be submitted on Schedule 636 would include: (1) The length and the expiration date of the original contract under which each fossil fuel purchase is made; (2) the mode of transportation used to deliver fuel requirements; (3) the identification of gas quantities purchased interstate (as opposed to intra-state); and (4) information on whether coal shipments have been washed. This new information would be submitted along with the same data currently filed on Form No. 423.

The purpose of Schedule 647 would be to obtain information concerning the outages, and reasons therefor, of generating units. Reliability analysis of electric systems requires comprehensive statistical data on generating plant outages (scheduled and unscheduled). At the present time, the Commission has no official periodic, comprehensive source of outage data. Therefore, the new information to be submitted on Schedule 647, to be furnished by all systems, would provide the Commission with a large statistical base and would be immediately available to Commission staff.

Schedule 648 would require certain operating information on a system's plants at the time of system peak load. This data is presently collected on Schedule 1 of the Form 12. Schedule 665 would require plant transformer data also presently collected in the Form 12.

All data and information submitted pursuant to the proposed form would be required to be subscribed and verified by a duly authorized executive officer of the respondent as being factually accurate and complete to the best of his or her

[1] 41 Stat. 1068–1070, 1073, 1074; 49 Stat. 842–844, 848, 849, 851–853, 855, 856, 858, 859; 67 Stat. 461; 82 Stat. 617; 16 U.S.C. 803, 812, 813, 824a, 824d, 824e, 824f, 825c(b), 825c(c), 825h, 825j.

[2] 18 CFR 141.1 (1975).
[3] 18 CFR 141.2 (1975).
[4] 18 CFR 141.7 (1975).
[5] 18 CFR 141.22 (1975).
[6] 18 CFR 141.23 (1975).
[7] 18 CFR 141.51 (1975).
[8] 18 CFR 141.52 (1975).
[9] 18 CFR 141.55 (1975).
[10] 18 CFR 141.59 (1975).
[11] 18 CFR 141.61 (1975).

knowledge according to the Commission's Rules of Practice and Procedure (18 CFR Part 1).

It has been contemplated by the Commission that all respondents, in using EDP media, would be required to submit their data on magnetic tape. The Commission now proposes that magnetic tape, in addition to a hard copy of the forms used to create the tape, would be required only from those respondents having over 2,000 MW of installed capacity, and that the manner of the preparation of the tapes be left to the discretion of those respondents. For all other respondents, an original and four copies of each completed Form No. 156 would be required to be filed with the Commission.

Any interested person may submit to the Federal Power Commission, 825 North Capitol Street, NE, Washington, D.C. 20426, not later than October 22, 1976, data, views, and comments or suggestions in writing concerning all or part of the proposed form. Written submittals will be placed in the Commission's public files and will be available for public inspection at the Commission's Office of Public Information, Room 1000, 825 North Capitol Street, NE, Washington, D.C. 20426, during regular business hours. The Commission will consider all such written submittals before acting on the matters herein proposed. An original and 14 conformed copies should be filed with the Secretary of the Commission. Submissions to the Commission should indicate the name, title, mailing address and telephone number of the person to whom communications concerning the proposal should be addressed, and whether the person filing submissions requests a conference with the staff of the Federal Power Commission to discuss the proposed form. The staff, in its discretion, may grant or deny written requests for conference prior to or subsequent to the filing of formal submittals.

The proposed amendments to Part 141 of the Commission's Approved Forms under the Federal Power Act would be issued pursuant to the authority granted the Commission by the Federal Power Act, as amended, particularly sections 10, 19, 20, 202, 205, 206, 207, 304, 309 and 311.[12]

Effective for the reporting year 1976, the Commission proposes to amend Part 141, Statement and Reports (Schedules), in Subchapter D—Approved Forms, Federal Power Act, Chapter I, Title 18 of the Code of Federal Regulations by adding a new Section 141.68 prescribing new FPC Form No. 156, Report of Generating Plant, Technical, Environmental and Operating Data, in the form set out in Attachment A hereto. New § 141.68 will read as follows:

[12] Supra, note 1.

141.68 Form No. 156, Report of Generating plant, technical, environmental and operating data.

Form 156 is designed to collect generating plant design, technical, and operating data on boilers, turbines, generators, transformers, stacks, fuel-feeders, cooling facilities, flue-gas cleaning equipment along with plant cost and expense data, fuel use and cost, and plant and unit operating efficiencies for steam-electric of 25 megawatts or greater, installed capacity, and similar data where applicable on conventional hydroelectric, pumped storage, gas turbine, and internal combustion of 10 megawatts or greater installed capacity. Limited data is collected for plants of lesser installed capacity.

The filing of this data, as defined in the detailed instructions of this form, is annually on or before May 1 for the previous calendar year; monthly on or before 10 days after 1st of the following month; or monthly on or before 45 days after the 1st of the following month.

The Secretary shall cause prompt publication of this notice to be made in the FEDERAL REGISTER.

By direction of the Commission.

KENNETH F. PLUMB,
Secretary.

Docket No. RM76-32

Attachment A

FEDERAL POWER COMMISSION

BUREAU OF POWER

REPORT OF GENERATING PLANT
TECHNICAL, ENVIRONMENTAL, AND OPERATING DATA

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Form 156	TABLE OF CONTENTS	

Level I General Instructions

Level II General Subject Instructions

Level III Detailed Instructions

Schedules: 0100, 0601, 0603-0623, 0625-0638, 0641-0645, 0647-0660, 0665, 0854, 0855, 0857, 0000 and 1000

Cross-Reference List

Data Standards

Schedules: 0100
0001, 0603-0623, 0625-0638, 0641-0645, 0647-0660, 0665, 0854, 0855, 0857
0000, 1000

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(5-76)

LEVEL I

GENERAL INSTRUCTIONS

FOR THE

PREPARATION AND SUBMISSION

OF PUBLIC USE SCHEDULES

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I. ADMINISTRATIVE BACKGROUND

The Federal Power Commission (FPC) has established an information system designed to improve the decision-making capabilities of the Commission. This program, the Regulatory Information System (RIS), was authorized by Commission Order 494, September 26, 1973, and features the following characteristics and capabilities:

- A consolidated data collection system designed to eliminate unnecessary or redundant reporting and to provide standardized data collection schedules.
- A comprehensive system for transmitting, processing, and accessing data requested of respondents by the Commission.
- Establishment of a modern computer facility at Commission headquarters featuring consolidated regulatory data bases and the associated automatic data processing (ADP) equipment and programming software necessary to store, validate, and access that data.

These instructions are intended to aid each respondent to understand the scope and objectives of the RIS system regarding source data collection and to provide clear and concise guidance for the completion of the revised public use schedules.

A. DATA COLLECTION CONCEPTS

The FPC public use schedules are designed to be vehicles for data collection, rather than for data display, by the Commission. This objective has guided the design of the layouts and instructions so as to achieve maximum efficiency in both data collection and subsequent processing. Within this basic design philosophy, the public use schedule data collection concept embodies the following design characteristics, some of which are described in greater detail in the subsequent chapters.

1. Optical Character Recognition (OCR) - All schedules have been designed with OCR requirements as one of the design constraints. This will allow for transition to optical scanning as a future alternative for data entry.

2. Separation of Instructions - All instructions are separated from the schedules to which they apply, in order to make efficient use of form space. Instructions consist of three separate levels, as follows:

- Level I - General (applicable to all schedules).
- Level II - General subject (applicable to natural gas operations, electric operations, or financial data).
- Level III - Detailed (applicable to individual schedules).

3. Separation of Footnotes - Footnotes or other extraneous marks or comments intended to qualify or modify data must not be entered directly on any schedule. The public use schedules have been designed to minimize the need for footnotes through the establishment of distinct data elements which represent some data previously reported as footnotes. However where necessary to make the related data more meaningful, footnotes may be entered on a special footnote schedule designed for this purpose. On the primary data schedules, the respondent must enter only a unique footnote reference number to provide a link to the footnote schedule.

4. Reporting Requirements - Reporting frequencies of the new schedules vary from semi-monthly to biennially. For certain schedules, all data must be supplied with each submission. For the other schedules, all data must be supplied with an initial submission, and on subsequent submission of these schedules respondents need report only changes, additions and deletions. These requirements are specifically stated in the Detailed Instructions for each schedule in paragraph B under the heading "II. General Information".

5. Consolidated Schedules - Many of the public use schedules have been designed to consolidate data previously collected on more than one schedule. The consequence of such consolidation is a reduction in the total number of schedules. Furthermore, portions of some schedules may be inapplicable to certain respondents, as specified in the detailed instructions.

B. APPLICABILITY OF INSTRUCTIONS

The Commission will provide to each respondent all three levels of instructions, appropriate to the type of operation. For example, an electric utility will receive:

- Level I - General Instructions
- Level II - General Subject Instructions (Electric Operating Data)
  - General Subject Instructions (Corporate and Financial Data)
- Level III - Detailed Instructions (Electric Operating Schedules)
  - Detailed Instructions (Corporate and Financial Schedules)

Each respondent will also receive footnote schedules (with instructions) and free form (blank) schedules for the submission of narrative or graphic support data that will not be loaded into the Commission's data bases.

As the public use schedules undergo change in future reporting periods through the rulemaking process, modified layouts and instructions will be prepared by the Commission and mailed to the respondents, together with appropriate documentation that describes the authorization and the details of all such changes, additions, or deletions. The Commission will prepare the instructions in a manner suitable for looseleaf binders, so that they can be easily maintained by the respondents.

II. STANDARD DEFINITIONS

The following standard definitions are provided to aid the respondent in understanding the data collection concepts contained in these instructions.

A. RESPONDENT - Each corporation, person, agency, authority, or other legal entity or instrumentality, whether public or private, which is required, under the provisions of the Federal Power Act, the Natural Gas Act, or Commission Order, to submit information to the Federal Power Commission via public use forms. Respondents also include those organizations that voluntarily or upon request, provide data to the Commission.

B. PUBLIC USE SCHEDULE - A collection of functionally related data elements organized and formatted into an arrangement suitable for the collection of data; the instructions for preparation of a schedule are included in this definition.

C. DATA FIELD - Within a record or schedule, a specific area used for representing a particular data value, i.e., the spaces provided for data entry on a schedule.

D. DATA ELEMENT - A basic unit of identifiable and definable information. Data elements identify the data fields within a schedule.

E. DATA ITEM - The expression of a particular value of a data element. In cases where a data element identifies a column or row on a schedule, a data item is a specific entry within the column or row.

F. LOGICAL ENTRY - A collection of related characteristics, defined by data elements, associated with a specific "key" item of information. For example, "name", "address", "date of incorporation", and "total assets" are all attributes of the key item "company", which is identified by a company code. This entire collection of data elements is called a logical entry. Within the public use schedules, logical entries are blocks of data that may be repeated several times on a page.

G. KEY ITEM IDENTIFICATION - A data element that provides a unique reference point for purposes of accessing or retrieving data. Within the public use schedules, the key item(s) uniquely identify groups of related data elements which by definition are logical entries. Normally, key items appear first within a logical entry and must always be completed by the respondent. The Detailed Instructions for each schedule explicitly identify those data elements that are "key".

Other, more specific, definitions of technical and financial data elements are contained in the Level II - General Subject Instructions.

III. GENERAL PROCEDURES FOR SCHEDULE PREPARATION

Many of the public use schedules have been designed so that different types of respondents can use the same basic schedules and instructions for the collection of identical data. For such schedules, the Detailed Instructions explain the unique data preparation requirements applicable to each type of respondent.

A. SCHEDULE SUBMISSION

The Commission will forward annually an appropriate number of copies of each schedule required of the respondent for the given reporting period.

All respondents shall forward the number of copies ordered by the Commission of each public use schedule to the Commission. Respondents submitting schedules on magnetic tape must also submit an attested working copy, appropriately completed, of the supplied schedules from which the tapes were prepared.

The specific report period for each schedule is listed in the General Subject Instructions (Level II) for the natural gas operations, electric operations, or financial data. The reporting period must be entered by the respondent on each schedule. Care must be exercised to ensure that the report period on each schedule (month, day, year) represents the ending date of the period to which the data applies, not the date the schedule was completed.

Prior to forwarding the schedules to the Commission, the respondent must complete Schedule 0100, Index of Public Use Schedules Submitted. A data field-by-data field instruction for Schedule 0100 shall be found in the Level III, Detailed Instructions for this schedule. All schedules should be carefully assembled, packaged, and forwarded to the following address:

Federal Power Commission
825 North Capitol Street, N.E.
Washington, D. C. 20426
Attn: Office of the Secretary

FEDERAL POWER COMMISSION
825 North Capitol Street, N.E.
Washington, D.C. 20426

ATTESTATION UNDER OATH

This report must be attested to under oath by an officer of the company. _____
(Insert here the name of the attester)

being first duly sworn according to law, certifies that he is _____
(Insert here the official legal title of attester)

of _____; that he has full power and authority to make the
(Insert here the exact legal title or name of respondent)

attestation; that he has read this report and is familiar with the contents therein; that to the best of his knowledge, information and belief, all estimates and matters therein set forth are true and correct and the said report is a correct statement of the business and affairs of the above-named respondent in respect to each and every matter set forth therein during the period from and including _____, 19 __, to and including _____, 19 __.

_____
(Signature of attester)

Subscribed and sworn to before me

this _____ day of _____, 19 ____.

_____
NOTARY PUBLIC

(SEAL)

FIGURE III-1. NOTIFICATION OF ATTESTATION

B. REPORTING MEDIA

The acceptable media for reporting public use data are magnetic tape with a working copy of the schedules or typed schedules.

Many respondents are capable of preparing the data via magnetic tape and have been directed by the Commission to do so. In addition, the respondent must attach associated attested working copy of the FPC supplied schedules from which the tapes were prepared.

C. SUPPORTING DOCUMENTATION

Additional statements, maps, diagrams, charts or other documentation supportive to the data schedules not otherwise specifically required or provided for should be inserted directly behind the schedules to which they apply. Respondents shall utilize FPC Schedule Number 1000 in all cases except those requiring oversize documents such as large maps. In all cases, the schedule number and page number of the schedule to which the supporting documentation applies must be entered, as well as the reporting period. Supporting documentation must not be stapled to the corresponding schedules.

D. ATTESTATION

The complete set of schedules filed for a given reporting period must be subscribed and verified by the duly authorized executive officer of the respondent, or of one of the respondents where a consolidated schedule is filed, who is qualified and authorized to prepare or supervise the preparation of the schedules and to certify their accuracy, completeness, and truthfulness. Such attestation will be submitted in the format specified in the Attestation Under Oath, displayed in Figure III-1.

Information submitted on magnetic tape must be accompanied by a working copy of each schedule used to create the magnetic tape. A single Attestation Under Oath will apply to all information, regardless of filing medium, submitted in the reporting period.

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(5-76)

E. RESPONDENT COMMENTS AND SUGGESTIONS

The Regulatory Information System represents a significant departure from the previous methods of gathering and using information by the Commission. Like all new systems, areas for improvement will undoubtedly be discovered during actual operation. All respondents are encouraged to supply comments and suggestions to the Commission of specific data collection or schedule design problems.

All questions concerning schedule design, data entry rules, filing requirements, or administrative matters, should be directed to the Office of Regulatory Information Systems at Commission headquarters. The telephone number for inquiries at the Commission is (202) 275-4138.

This telephone number and the schedule mailing address will be the main contact points between the Commission and the respondents for matters relating to the data collection. Questions that cannot be handled directly will be routed to the appropriate bureau or office personnel for resolution.

IV. RULES FOR DATA PREPARATION

The respondent is instructed to rigorously conform to the following general rules for data entry when preparing the schedules prior to the time that the schedules are forwarded for typing.

A. DATA FIELD LENGTH

Do not exceed the data field lengths allocated for each data element. When the data field size is inadequate, leave the data field blank and enter the true value in a footnote.

B. JUSTIFICATION (DATA POSITIONING)

Right justify every numeric data field; that is, place the data in the right portion of the data field so that no blank spaces follow the last character. Unfilled leading characters should be left blank. All alphabetic data fields must be left justified; that is, they begin at the left boundary of the data field.

C. ALPHABETIC AND NUMERIC

The Detailed Instructions for each schedule define each data field as either alphabetic (A) or numeric (N). The instructions also specify the data field length, including implied decimal positions for fractional numbers. For example, (N7.3) means a numeric field with seven characters to the left and three characters to the right of the implied decimal position. (N6) implies a six digit integer number and (A22) defines a twenty-two character alphabetic data field.

Do not enter alphabetic or special characters in a data field defined to be numeric by the instructions. The only exceptions to this rule are a minus sign or an asterisk, as described later. Numeric data fields must be right-justified and can be preceded by blank spaces. A data field defined as alphabetic may include any

combination of numeric and alphabetic characters. If necessary, words should be abbreviated to fit an alphabetic data field within the allocated space.

D. NEGATIVE ENTRIES

To indicate a negative numeric value, type over the preprinted minus sign in the right-most character of the data field immediately after the last significant digit; for example, [4917-]. Positive numbers require no sign within the data fields; simply right-justify the number. Only certain data fields may legitimately contain negative numbers. Those data elements that may be expected to generate negative numbers are identified in the Detailed Instructions and in the schedules, where a character position is reserved for the minus sign, which is printed.

E. NULL ENTRIES

Data fields that are not applicable to a given respondent's situation must be left blank. Do not write in "N/A", or "NONE", or "NO DATA", or any other null response. Numeric data fields that do apply to the respondent but for which the respondent has a legitimate value of zero must be so entered with zero, including all decimal positions. Numeric, alphabetic, or alpha-numeric data fields that do not apply must be left blank.

F. PERCENTAGES AND FRACTIONS

Numeric data fields expressed in percentages may contain a variable number of decimal positions. In the schedules, all decimal points are implied by a preprinted character (▲) that does not occupy a character position within the data field. For example: NN▲NNN

The factional portion to the right of the decimal point should always be rounded to the last significant digit. For example, 11 2/3 should be entered as [11▲667]. Under no circumstances must a portion of a whole number be expressed in fractional notation for any numeric data field. Rather, use the decimal representation, as

illustrated by the preceding example of a percentage. For example, never enter 12 1/3 in a schedule; instead enter [12▲333], assuming three decimal positions are requested.

G. SPECIAL CHARACTERS

As illustrated in the preceding section, all of the public use schedules have been designed with preprinted decimal point locators, where applicable. The respondent is specifically requested not to enter dollar signs, decimal points (.), commas (,), parentheses, technical symbols, or any other special characters on the schedules unless called for by the Detailed Instructions. For example, the number $53,429.48 would be entered as [53429▲48] and the number $45,237 would be entered as [45237▲00].

H. MULTIPLE PAGES

Multiple pages may often be necessary for the respondent to provide all of the data for a particular schedule. Additional pages may be requested of the Commission at any time. To minimize such requests, the Commission will analyze historical submission patterns and volumes for each schedule and attempt to tailor the number of pages mailed out with the number of pages submitted in the past. Each page of a schedule must be numbered in the upper right hand corner.

I. LISTS OF LEGITIMATE VALUES

A copy of the Register of Data Standards will be made available to each respondent. The Register must be a standard reference tool for personnel completing the schedules to assure valid data entries. Respondent-entered data that is inconsistent with values contained in the Register will be rejected, since validation procedures are also based on the Register.

Normally, the Detailed Instructions will not contain the lists of legitimate values, but will refer to the Register of Data Standards. However, certain data item lists were incorporated directly in the Detailed Instructions for the convenience of the respondent. In these cases the data item list mnemonic appears in parenthesis.

The respondent must use the approved values and is also cautioned not to alter the units of measure (e.g., MMcf or KW) defined in the Detailed Instructions.

V. DATA MAINTENANCE ACTIVITIES

When preparing the public use schedules, the respondent must be familiar with the procedures necessary to modify data on the Commission's data bases and to prepare footnotes, where necessary. These topics are covered in this chapter.

A. MODIFICATION OF DATA

New data may be entered directly on any of the public use schedules by the respondent. The respondent must be certain that all data fields identified as key by the instructions are properly completed. For each new entry all data must be completed for the initial submission. For subsequent submissions of this data, the following general rules apply.

Changes to existing data residing in Commission's data bases can be entered directly on any public use schedule. To determine whether a data element has changed, the respondent is to refer to the data reported for the last submission.

For data identified by the Detailed Instructions as periodically required to be submitted, the respondent must completely resubmit all requested data regardless of whether or not the data have actually changed. In other Detailed Instructions subsequent submissions require the respondent to submit only appropriate identification (key data fields) and changed data fields. For this type of data, the Commission maintains only the latest current values in the data base, and the last reported data will continue to be propagated as the current data. To delete the current value of a data element, the respondent must enter an asterisk (*) in the left-most position of the data field, regardless of the numeric or alphabetic nature of the data. The following example illustrates how to delete any single occurrence of a data element:

Data Field Title
*

To delete a data element in more than one logical entry, an asterisk must be entered by the respondent for each occurrence of the data element.

To delete an entire logical entry, a retired generator for instance, the respondent must type a "D" over the preprinted "D" contained to the right of each logical entry and must specify all key items necessary to uniquely identify the logical entry. The Detailed Instructions indicate which data elements are key items. When processed, all of the data for the entire logical entry will be deleted from the data base. No facility is provided for deleting, in a single action, all of the data for an entire respondent or for any major grouping of data above the logical entry level, such as the data for an entire plant. To accomplish major delete actions, the respondent must delete each logical entry separately. If such step-by-step action proves cumbersome for the respondent in view of a major delete action (a plant closure, for example), the respondent should notify the Commission in writing of the delete action and request appropriate steps to update the data bases.

D. FOOTNOTES

Footnotes cannot be placed directly on any public use data schedule. Instead, a single, separate schedule (FPC Schedule Number 0000) is used for footnote entry. The preparation of a respondent supplied footnote requires entry on both the source schedule and the footnote schedule.

All data schedules contain two blocks to signify the presence of a footnote. These footnote indicator data fields are called the General Footnote and the Specific Footnote. The General Footnote data field enables the respondent to supply additional information that pertains to either the entire schedule and/or to a particular column (all occurrences of a data element) within the schedule. The Specific Footnote may be for either a complete logical entry and/or a specific data element within any logical entry.

The footnote number must be assigned uniquely and cannot be repeated across schedules. For example, if Schedule 0102 has footnote numbers 014 and 015 assigned, the footnotes for schedule 0103 should begin at 016. The respondent must not number the footnotes starting from 001 for each schedule. All footnote reference numbers throughout all schedules submitted in a single reporting period must have unique numbers.

VI. DATA KEYING AND VERIFICATION INSTRUCTIONS

Data keying may be utilized by respondents who submit data via magnetic tape. The following keying (and, therefore, verification) instructions apply to all redesigned public use schedules, regardless of actual data content. Keying will produce 80-character records (refer to magnetic tape submission requirements).

Each record must always contain the same control data fields in columns 1-11. These data fields are:

- Data Field A - Schedule Number (Record Position 1-4)
- Data Field B - Page Number (Record Position 5-8)
- Data Field C - Line Number (Record Position 9-10)
- Data Field D - Record Type (Record Position 11)

Data Keying and Verification Instructions are described in Figure VI-1.

When keying from the Public Use Schedules, follow the general rules given below.

- Data Field A, Schedule Number, (Record Position 1-4) and Data Field B, Page Number, (Record Position 5-8) are obtained from the header area of the schedule. The schedule number is obtained from the upper left corner of the schedule and the page number from the upper right corner of the schedule.
- Data Field C, Line Number (Record Position 9-10) is preprinted to the left of each line in the margin of the schedule (even numbers such as 2, 4, 6, etc. are the only valid entries).
- In Data Field D, (Record Type) an "A" should be keyed in Position 11 of the first record keyed for a line.
- In record positions 12-80 of the record; key all data field separators (|) and all data that has been filled in by the respondent.

DATA KEYING AND VERIFICATION INSTRUCTIONS

DATA FIELD	DATA FIELD NAME	COLUMNS FROM	COLUMNS TO	NUMBER OF COLUMNS	*	SPECIAL INSTRUCTIONS
	Common Data					
A	Schedule Number	1	4	4	N	Preprinted at the top left of all schedules
B	Page Number	5	8	4	N	Printed at top right of all schedules
C	Line Number	9	10	2	N	Preprinted on left margin of all schedules (even numbers)
D	Record Type (A = first record, B = second record)	11	11	1	A	A = First record for line B = Second record for line
E	Line Data	12	80	69		Key all data fields and their data field separators. Compress data as described in keying instructions.

* A - Alpha
N - Numeric

FIGURE VI-1. DATA KEYING AND VERIFICATION INSTRUCTIONS

- At the end of each line on the schedule, key a line terminator symbol (@).

  Note: In some instances, a second record (Record Type B) will be required solely for the line terminator symbol (@).

- Normally, only one record will be required for a line. Should a second record be required for a line, duplicate Positions 1-10 from the "A" record, and key a "B" Position 11 of the second record.
- Do not key data fields which are preprinted, including data field separators.
- Do not key odd numbered lines (i.e., 3, 5, 7, 9, etc.).
- Do not key lines in which the respondent has entered no data.

In the examples shown, a lower case b represents a blank.

A. DATA FIELD CONTENTS

The data keyed into Positions 1-11 of the keyed records is keyed according to the fixed format specified above. But the data keyed in the remainder of the positions of the records (12-80) are keyed in a variable format. That is, leading and trailing blanks in data fields are not keyed. For example, if a ten-position alpha-numeric data field on the schedule contains a single letter, only that letter is keyed:

"Abbb" is keyed "A|"

B. DATA FIELD SEPARATOR (|)

The variable format explained in A above, requires that the sum of each data field (in Positions 12-80) be indicated by following the data field contents with a data field separator symbol (|).

The data field separator is the vertical bar symbol, which is to be represented by a 12-7-8 punch, and a hexadecimal 4F in EBCDIC.

See the example in A above, or those that follow, for illustrations of the use of the data field separator.

C. LINE TERMINATOR (@)

The end of a schedule line must be represented in the keyed record. The vertical bar (data field separator) following the last data field is to be followed with a line terminator symbol. This can require that a "B" record be keyed to provide the line terminator symbol (@).

The line terminator is the "@" symbol, which is to be represented by a 4-8 punch, and a hexadecimal 7C in EBCDIC.

D. CONTINUATION RECORD

In most cases, one line on a schedule will be represented by one 80-character record, but in some cases two records will be necessary to represent a single schedule line. In the first (or only) record, an "A" is keyed into Position 11. In the continuation record (there will not be more than one per line), after duplicating Positions 1-10 from the "A" record, key a "B" in Position 11 then continue keying from the schedule line. (Note that for two-record lines, Position 80 of the "A" record may occur in the middle of a data field on the schedule.)

E. BLANK LINES

Every data field in a schedule line, including blank data fields, must be represented in the keyed records. For a blank data field, key only a data field separator symbol (|). For example, if the first three data fields on a schedule line were blank they would be represented in the keyed record by three consecutive data field separators (in Positions 12-14).

F. DECIMAL POINTS IN NUMERIC DATA FIELDS

Many numeric data fields contain decimal points, indicated on the schedules by a preprinted Δ. (The only valid indication of a decimal point is the preprinted Δ. Use of a period is an error on the part of the individual filling in the data.) Because it is preprinted, it is not keyed. In order that the data field contents be

properly entered in the RIS data base, all positions to the right of a preprinted decimal in a data field on a schedule must be keyed.

G. CONSOLIDATED EXAMPLE

This example illustrates the rules given above, as applied to an entry on line 6 of page 2 of a hypothetical Schedule 99.

Data Field Type: a	n	n	n	n	n	n	n	n	n	n
Data Field Length: 35	10	10	8.2	3.3	10	10	10	10	10	10

Data Field Contents:
MIDWESTERN INTERNATIONAL 350 * 673△21 24△2bb 750000 b b 550000 622490 3575829400

Keyed Records: A Record -
0099000216AMIDWESTERN INTERNATIONAL|350|*|67321|24200|750000||550000|622490|

B Record -
0099000216B3575829400|@

H. CHARACTER SET

Keying should be accomplished using the standard EBCDIC alphabetic and numeric character set. The following are the only valid special characters which can be used:

EBCDIC SPECIAL CHARACTER

CHARACTER	EBCDIC HEX REP	CARD PUNCH	CHARACTER	EBCDIC HEX REP	CARD PUNCH
.	4B	12-3-8	-	60	11
(	4D	12-5-8	/	61	0-1
+	4E	12-6-8	,	6B	0-3-8
&	50	12	%	6C	0-4-8
$	5B	11-3-8	?	6F	0-7-8
*	5C	11-4-8	:	7A	2-8
)	5D	11-5-8	'	7D	5-8
;	5E	11-6-8	=	7E	6-8
			"	7F	7-8

Data Field Separator: |	4F	12-7-8
Data Line Terminator: @	7C	4-8

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I. MAGNETIC TAPE SUBMISSION

The magnetic tape to be submitted shall be compatible with IBM 370/OS using 9-track standard IBM OS labels or using 9-track non-labelled tapes in EBCDIC code format at 800 or 1600 bpi. The logical record length shall be 80 characters. The blocking factor should be compatible with IBM OS tape blocking conventions.

All respondents submitting magnetic tape(s) must enclose with the tape the following information: name of company, name of contact about the magnetic tape and telephone number. Additionally the following information must be specified for labelled and non-labelled tapes:

LABELLED AND NON-LABELLED TAPES

- whether 800 or 1600 bpi
- whether labelled or non-labelled

LABELLED TAPES

- internal volume/serial number of tape
- data set name

NON-LABELLED TAPES

- block size in characters (length of physical record)
- external volume/serial number of tape

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RIS | FEDERAL POWER COMMISSION
REGULATORY INFORMATION SYSTEM

LEVEL II

GENERAL SUBJECT INSTRUCTIONS

FOR

ELECTRIC UTILITY/INDUSTRIAL/LICENSEE SCHEDULES

FPC Form 151
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REGULATORY INFORMATION SYSTEM | ii

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APPENDIX 1. List of Electric Utility/Industrial/Licensee Schedules

Schedule Number	Schedule Name
0601	Plant Owner - Operator Data
0602	General Information - Plants
0603	Generating Unit Joint Ownership
0604	Hydroelectric Plant Design Data
0605	Hydroelectric Generating Unit Design Data
0606	Hydroelectric Plant Capability Data
0607	Pumped Storage Plant Design Data
0608	Pumped Storage Generating Unit Design Data
0609	Pumped Storage Plant, Separate Motor Driven Pumps, Design Data
0610	Internal-Combustion and Gas-Turbine Plant Design Data
0611	Internal-Combustion and Gas-Turbine Generating Croup Design Data
0612	Steam-Electric Plant Design Data
0613	Steam-Electric Generating Unit Design Data, Turbine Design Data
0614	Steam-Electric Generating Unit Design Data (Generating Data and Cooling Facility)
0615	Boiler Design Data
0616	Common Fuel-Feeders by Boiler
0617	Boilers Served by Fuel-Feeder Systems
0618	Stack Descriptive Data
0619	Boilers Served by Stacks
0620	Stacks Associated with Boilers
0621	Flue-Gas Cleaning Equipment - Design Data
0622	Boilers Served by FGCE
0623	Boiler FGCE Equipment
0625	Plant Cooling System Characteristics
0626	Plant Cooling Water Source Data
0627	Plant General Water Use Data
0628	Plant Water Treatment Settling Pond Discharge Data
0629	Plant Sewage Effluent Treatment Design Data
0630	Combined Cycle Plant Data
0631	Steam-Electric Plant Capability Data
0632	Small Plant Design Data and Costs
0633	Small Plant Generating Group Design Data
0634	Annual Plant Capacity - Output and Fuel Data
0635	Monthly Power Plant Data
0636	Plant Fuel Cost and Quality Data
0637	Annual Large Plant Fuel Data
0638	Internal-Combustion and Gas-Turbine Plants Costs and Expenses
0641	Hydroelectric Plant Costs and Expenses
0642	Pumped Storage Plant Costs and Expenses
0643	Steam-Electric Plant Costs and Expenses

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Schedule Number	Schedule Name
0644	Small Plant Costs and Expenses
0645	Annual Small Plant Fuel Data
0646	Annual Industrial Power Plant Data
0647	Annual Large Plant Unit Performance Data
0648	Annual Peak Demand Data by Plant
0649	Plant Fuel Consumption and Quality - By Month
0650	Annual Boiler Fuel Use and Operation
0651	Monthly Boiler Fuel Consumption and Peak Operation
0652	Boiler Flue-Gas Cleaning Equipment - Operational Data
0653	Chemicals Used in Plant Cooling and Boiler Water
0654	Plant Disposal of Combustion Cycle Products
0655	Plant Combustion Cycle Additives
0656	Annual Plant Environmental Data
0657	Water Temperature and Flow at Seasonal Peaks
0658	Cooling System Operational Data
0659	Plant Projection Data
0660	Plant Capacity and Generating Unit Changes
0661	Annual System Energy Accounting and Peak Load (Small Systems)
0662	System Net Dependable Capacity at Time of Annual Peak
0663	Transmission Line Data
0664	System Substation and Transformer Data
0665	Plant Transformer Design Data
0666	Conversion Apparatus and Special Equipment
0667	Distribution Transformer and Capacitor Data
0668	Electric Watthour Meter Data
0676	System Energy Transactions Between Other Systems (Small Systems)
0679	System Net Generation, Energy Transfers and Peak Loads by Month (Small Systems)
0680	System Load Data for Specified Weeks - AM
0681	System Load Data for Specified Weeks - PM
0682	System Future Changes in Firm Power Transfers
0683	System Energy and Peak Load Forecast
0684	Distribution of System Load in Service Area
0686	All-Electric Home Consumption Data
0687	Community Characteristics for Given Schedules
0688	Rate Schedules Energy Characteristics
0689	All-Electric Homes Customer and Total Bills Data
0690	All-Electric Homes Annual Bills
0691	Typical Net Monthly Bills - Commercial Service
0692	Typical Net Monthly Bills - Residential Service
0693	Typical Net Monthly Bills - Industrial Service
0694	Retail Rate Level Changes
0699	System All-Electric Home Rate Designation Data
0700	Licensed Project Recreation Data - Part I
0701	Licensed Project Recreation Data - Part II
0702	Licensed Project Recreation Data - Text
0703	Licensed Project Recreation Data - Part III
0705	Monthly Industrial Power Plant Data

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Schedule Number	Schedule Name
0706	Licensed Project Recreation Data - Part IV
0708	System Generation
0709	System Purchases or Sales for Resale
0710	System Interchange Power
0711	System Transmission of Electricity For or By Others
0712	System Borderline Receipts and Deliveries
0713	System Ultimate Consumer Deliveries and Losses
0714	System Net Generation, Energy Transferred, and Associated Peak Demand By Month
0852	System Maps and Diagrams
0854	Hydroelectric Storage Reservoir Curves
0855	Hydroelectric Power Plant Diagrams and Curves
0856	Map of Distribution of System Load In Service Area
0857	Steam-Electric Plant One-Line Diagrams

I. GENERAL INFORMATION

These instructions apply to the following schedules:

- Electric system design and operation data
- Electric generating plant design and operation data
- Licensed projects data

The groups of Power System and Generating Plant schedules represent a comprehensive selection of data covering pertinent operational and technical information of the respondents.

Systems are assigned a Type code by FPC depending on the degree with which their electric generation facilities meet their own requirements and the requirements of other systems:

Type I - a system for which the operating utility owns, leases, or purchases installed capacity to meet directly that system's total load requirements as well as any Type II or III system's load requirements by way of contract either in part or in total. The system generally has plans for additional installed capacity to meet its projected load requirements, as well as, Type II or III system's projected requirements. Bulk power transmission systems may also be designated as Type I.

Type II - a system for which the operating utility owns, leases or purchases installed capacity to meet directly that system's load requirements only in part and generally do not plan additional installed capacity to meet projected total load requirements. These systems may be called "partial requirements customers" of other systems. Small isolated systems may also be designated as Type II.

Type III - a system for which the operating utility does not own, lease, or purchase installed capacity to meet directly any of that system's load requirements. These systems may be called "total requirements customers" of other systems.

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ELECTRIC POWER SYSTEMS DATA

Subgroup	Respondent Category	Schedule Number(s)	Old FPC Form	Submission Date
Event Submissions				
1	All systems with transmission/distribution facilities	0663,0664, 0666-0668	1,1F,1M 12	May 1st
2	All utilities serving cities with a population of 2,500 or more	0694	82	Within 60 days of new or changed rate schedule
Annual Submissions				
1	All Type I systems	0662,0680-0684, 0708-0714,0852, 0854-0856	1,1F, 1M,12, 12A,12D	May 1st
2	All Type II and III systems	0676,0713,0852	1,1F, 1M,12, 12A,12D	May 1st
3	All Type II and III systems with "net energy for system" greater than 5000 MWH for the previous year.	0679	12A	May 1st
4	All Type II and III systems with "net energy for system" less than 5000 MWH for the previous year.	0661	12D	May 1st
5	FPC specified electric utilities	0686-0693,0699	3,3A	January 21st

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ELECTRIC GENERATING PLANT DESIGN AND OPERATION DATA

Subgroup	Respondent Category	Schedule Number(s)	Old FPC Form	Submission Date
Event Submissions				
1	All systems with generation facilities	0601-0605,0607-0623,0625-0633, 0665	1,12, 12A,12D 67	May 1st
2	All systems with hydroelectric generation facilities	0606	12	May 1st
Annual Submissions				
1	All systems with generation facilities	0634,0648,0660	12	May 1st
2	All systems with generation facilities	0649-0659,0857	67	May 1st
3	All systems with generation facilities	0647	New	May 1st
4	All systems with generation facilities	0637,0638,0641-0645	1,1F,1M	May 1st
5	Industrial Plants with installed capacity less than 5 MW	0646	12C	May 1st
Monthly Submissions				
1	All systems with generation facilities	0635	4	10 days after 1st of following month
2	Industrial Plants with installed capacity greater than 5 MW	0705	4	10 days after 1st of following month
3	All systems with generating facilities	0636	423	45 days after 1st of following month

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LICENSED PROJECT RECREATION DATA

Subgroup	Respondent Category	Schedule Number(s)	Old FPC Form	Submission Date
Biennial Submissions	All FPC Licensed Projects	0700-0703, 0706	80	March 1st of each odd numbered year for the two years ending as of December 31st of the previous year

Each schedule is identified by a schedule number and title (see Appendix 1, List of Electric Utility/Industrial/Licensee Schedules.

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II. STANDARD DEFINITIONS AND CODES

A. UNIFORM SYSTEMS OF ACCOUNTS

The required submissions will be prepared in conformity with the Uniform Systems of Accounts where applicable for Electric Utilities and Licensees prescribed by the Federal Power Commission, and all accounting words and phrases are to be interpreted in accordance with said classification. If the respondent is not under the jurisdiction of the Commission and does not keep its books in accordance with the above-mentioned Uniform Systems of Accounts, the schedules shall be completed with the actual accounts maintained being substituted, where necessary for the accounts listed.

B. SELECTED DEFINITIONS

The following definitions pertain to the Electric Utilities, Industrial Plant, and Licensee Schedules:

1. Ambient Temperature: The temperature of the surrounding cooling medium, such as gas or liquid, which comes into contact with the heating parts of the apparatus.

2. Border-line Deliveries: Energy delivered by a system to ultimate customers of another system with no "wheeling" involved.

3. Border-line Receipts. Energy received by ultimate customers of a respondent directly from another system for the account of the respondent with no "wheeling" involved.

4. Capability. The capability of a system, plant, or unit is defined as the load-carrying ability at the specified power factor and for the indicated time interval independent of the other characteristics of the load. In general, plant capability is determined by design characteristics; physical condition; adequacy of the prime mover; prime mover steam supply; operational limitations, such as cooling and circulating water supply and temperature, ambient temperature; and head and tailwater elevations.

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5. Demand Interval. The period of time over which the demand is measured. Each system shall report load data on the basis of integrated demands for 60-minute clock-hour intervals. When demand data are not available on this basis, please make adjustments, if possible, to approximate the integrated demand for 60-minute clock-hour intervals; otherwise, report demand interval used.

6. Dependable Capacity. The dependable capacity of a generating plant or group of plants is defined as the load-carrying ability for the time interval and period specified when related to the circumstances of the load to be supplied. In general, a plant's dependable capacity is influenced not only by factors affecting its capability, but by such factors as the duration of the system peak, position on the load curve where the plant is to be operated, and the plant's operating power factor.

7. Electric Respondent. Any electric utility, industrial producer, or other organization ultimately responsible for reporting of electric data to the Federal Power Commission.

8. Electric Plant. A unit or group of units of the same or different generating types considered to be at the same physical site.

9. Electric System. The physically connected generation, transmission, distribution, and other facilities operated as an integral unit under one control, management, or operating supervision.

10. Electric Utility. All enterprises engaged in the production and/or transmission and/or distribution of electricity for use by the public, including investor-owned, cooperatively-owned, government-owned (municipal systems, Federal agencies, state projects, and public power districts); and where the data are not separable, those industrial plants contributing to the public supply.

11. Generating Group. Generating units at one plant may be grouped for a number of reasons: separate powerhouses on the same pond; common header steam plants, gas-turbines

controlled through a common control house (cubicle), internal-combustion units which are treated as one per group, and similar physical characteristics within generating type for small plants.

12. Generating Type. Internal-combustion, gas-turbine, steam-electric, hydroelectric, and pumped storage, are the basic generating types. Nuclear, geothermal, fossil and waste are treated as fuels for steam-electric. The combined cycle generating type is comprised of steam-electric and gas-turbine types.

13. Generating Unit. A unit consisting of a turbine and an electric generator or a reciprocating engine and an electric generator. There may be more than one turbine or reciprocating engine mechanically coupled to one electric generator but this remains a single unit. A cross-compound steam electric plant consists of two units, since both turbine/generator combinations are mechanically separate.

14. Heat Rate. A measure of generating station thermal efficiency, generally expressed as BTU per net kilowatt-hour. It is computed by dividing the total BTU content of the fuel burned (or of heat released from a nuclear reactor) by the resulting net kilowatt-hours generated.

15. Industrial. Producers having generating plants for the purpose of supplying electric power required in the conduct of their industrial operations. Mining, manufacturing, and stationary plants of railroads and railways for active power is included.

16. Installed Capacity. Total of the capacities as shown by the nameplates of similar kinds of apparatus such as generating units, turbines, synchronous condensers, transformers, or other equipment in a plant, station, or system.

17. Large Generating Type (Large Plant). Steam-electric with installed capacity of 25 MW or greater; or hydroelectric, pumped storage, internal-combustion or gas-turbine each of 10 MW or greater.

18. Licensee. Any person, State, or municipality licensed under the provisions of Section 4 of the Federal Power Act, and any assignee or successor in interest thereof.

19. Load Factor. The ratio of the average load over a designated period to the peak load occurring in that period.

20. Municipality. A city, county, irrigation district, drainage district, or other political subdivision or agency of a State competent under the laws thereof to carry on the business of developing, transmitting, utilizing, or distributing power.

21. Net Dependable Capacity. Includes dependable capacity of a systems generating plants plus the net of firm power purchases.

22. Net Energy for System. The sum of system net generation and energy received from other systems, less the energy delivered to other systems for resale and equal to the sum of system losses, unaccounted for energy, and ultimate consumer sales.

23. Other Electric Respondents. Any other person or organization required to report electric plant, system, or licensed project data. A contractual power pool falls in this category.

24. Pumping Energy. The energy measured as input to a pumped storage plant for pumping purposes.

25. Run-of-river. Those hydroelectric plants whose operation cannot be regulated over a period of more than a few hours, either from storage at site or above, but whose operation is, in general, controlled by the volume of flow which must be utilized as it occurs, or be wasted.

26. Small Generating Type (Small Plant). All steam electric with installed capacity less than 25 MW; or hydroelectric, internal-combustion or gas-turbine each less than 10 MW.

27. Source of Water. This refers to the proper name and type of the natural water body from which water is withdrawn for the stated purpose. It is not limited

solely to the nature of the water body. Thus, the Mississippi River as a source of water should be reported as "Mississippi River" and NOT as "river water".

28. Storage. Those hydroelectric plants whose operations can be varied as desired because of storage at site or above. Such regulation may be weekly, monthly, or seasonal.

III. GENERAL INSTRUCTIONS

A. GENERATING GROUP CONCEPTS

The term "generating group" appears in the schedules in reference to steam-electric, hydroelectric, internal-combustion, gas-turbine, and small plant design data.

- Steam-Electric Generating Group is defined as those generating units grouped by virtue of being served by a common steam header, or a cross-compound configuration, or the simple case of a single boiler and generating unit combination. Data must be submitted for each generating unit even though some units may be similar in design.
- Gas-Turbine and Internal-Combustion Generating Group. For gas-turbine units, a generating group is defined as any collection of gas-turbine generating units that are controlled from the plant control room through a single control house (cubicle). In the case of a single unit having unique characteristics, assign a generating group I.D., then complete the schedule for that unit. Internal-combustion units are reported as a single unit to the group.
- Power House Generating Group is defined as those hydroelectric and pumped storage generating units grouped within a single power house at a plant site. Two power houses on the same pond are two groups. The majority of hydroelectric and pumped storage generating units are within only one powerhouse. Grouping of units is not by like unit design and design data must be submitted for each unit.
- Small Plant Generating Group is defined as those generating units grouped by virtue of like unit design under all generating types and design data is only submitted once for one unit within the group. A group may contain only one unit.

B. RESPONDENT ASSIGNED UNIQUE CODING

The majority of schedules which require submission of generating plant data call for the use of codes to identify components or groups of components within a plant. Most of the codes defined as "respondent assigned" are to be the respondents commonly used designation if such a designation exists. These codes must be unique within the type of equipment being defined within a plant. If necessary the respondent must assign a new code to establish this uniqueness. If a component (or group of components) is referenced in more than one schedule, it is essential that the same code be used to identify the component (or group of components) on all schedules. It is also necessary that the same code be used in reporting from year to year. Because of this, the respondent must maintain a record of the assigned codes to achieve consistent reporting.

Examples of components or groups of components which require respondent assigned codes are shown below:

- Generating Group I.D.
- Generating Unit I.D.
- Boiler I.D.
- Flue-Gas Cleaning Equipment I.D.
- Fuel Feeder I.D.
- Stack I.D.
- Cooling Facility I.D.
- Transformer Bank I.D.

Each I.D. above is unique within the generating type except Transformer Bank I.D. which is unique within a plant. For each plant (or given geographic site) there may be one or more generating types (e.g., steam-electric, gas-turbine, etc.). Most of the respondent assigned I.D. codes are for the steam-electric generating type.

In a few cases specified in the schedule Detailed Instructions, the respondent is requested to assign numeric sequential codes and maintain these codes from year to year.

RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0100 INDEX OF FPC PUBLIC USE SCHEDULES SUBMITTED		1 of 2

I. DESCRIPTION

This schedule shall be used to identify the schedules which were submitted by each respondent.

II. GENERAL INFORMATION

A. This schedule shall be submitted by all Federal Power Commission respondents.

B. This schedule shall be completed for each submission of schedules to the Federal Power Commission.

C. The report period date required on line two of this schedule shall be the final date of the period covered by the submission i.e., if data is reported on a calendar year basis, the date to be reported is December 31, 1976, in the format MMDDYY
123176.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1	Date Received in Mail Room (N6): This data field is for Federal Power Commission internal processing only. (TMDATE)
2	Date Received in DROC (N6): This data field is for Federal Power Commission internal processing only. (TMDATE)
3 (Key)	Schedule Number (N4): Enter the schedule number of each schedule being submitted in this submission.
4	Schedule Contact Name (A35): Enter the name of the individual to contact about the schedule number reported in data field 3 above. The format for the name is: Last Name, First Name or Initial, Middle Initial. (IDNAME)
5	Schedule Contact Telephone Number (A12): Enter the area code and telephone number, in the format NNN-NNN-NNNN. Be certain to over strike the preprinted hyphens (-).
6	Number of Pages (N4) NO: Enter the number of pages submitted for the schedule reported in data field 3 above.
7	Indicate Primary Reporting Media, Hardcopy or Tape (N1): Enter "1" if hardcopy is being submitted; or enter "2" if tape is being submitted. (INETOR)

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DETAILED INSTRUCTIONS: SCHEDULE 0100 INDEX OF FPC PUBLIC USE SCHEDULES SUBMITTED		2 of 2

Data Field Number	Instructions
8	Name of Attestor: Enter the legal name of the individual who is attesting to the validity of the data content being submitted on each of the schedules reported in data field 3 above. (IDNAME)
9	Signature of Attestor: Enter the attestors legal signature in this data field. (IDNAME)
10	Date of Attestation: Enter the date of attestation, in the format MMDDYY. (TMDATE)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0601	PLANT OWNER - OPERATOR DATA	1 of 1

I. DESCRIPTION

This schedule is used to collect data on the ownership of electric generating plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by all electric utilities which operate generating plants. In the case of joint ownership, only the plant operator need complete this schedule.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Name of Party Holding Interest (A35): Enter the name of each person holding an interest in the plant. Complete one entry (i.e., line, in this case) for each party for each plant. For example, a plant having six joint owners would require six complete logical entries. Abbreviate if necessary. When the person operating the plant is different from the owner, enter the correct code in data field 4, "Nature of Interest", and leave data field 3, "Per Cent Interest" blank. When the operator is also one of the joint owners, complete only one entry. (IDNAME)
3	Per Cent Interest (N3.2) PCT: Enter the percentage of interest in plant (for example, the amount of a joint ownership) held for each person entered in data field 2 above.
4	Nature of Interest (A2): Enter the abbreviation best describing the nature of the interest in plant for each party entered in data field 2 above. Enter only one of the codes, from the Register of Data Standards, TYBSIN.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0603	GENERATING UNIT JOINT OWNERSHIP	1 of 2

I. DESCRIPTION

This schedule is used to collect data only for electric generating units which are jointly owned by two or more persons.

II. GENERAL INFORMATION

A. This schedule shall be submitted only by all electric utilities generating plants, and only if per cent interest between generating units is different than that reported on Schedule 0601. Only the plant operator need complete this schedule.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Complete a separate entry for each unit and each owner. For example, a plant with two jointly owned units, each having three joint owners, would report six entries.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter one of the abbreviations for generating type from the following list: (TYPLFW) ST = Steam-Electric HY = Hydroelectric (conventional) HP = Hydroelectric (pumped storage) IC = Internal Combustion GT = Gas-Turbine
3 (Key)	Generating Group ID (A5): Enter the unique identification code assigned by the respondent (as defined in the General Instructions for Electric Utility Respondents) of which the jointly owned unit is a member. (IDEQPT)
4 (Key)	Generating Unit ID (A5): Enter a unique generating unit identification code assigned by the respondent to each generator within the plant. This is the designation commonly used by the respondent. This particular code must be used on schedules referring to this generator at all times. (IDEQPT)
5	Unit Capacity (N5.2) MW: Enter the installed capacity of each jointly owned unit in megawatts (generator maximum nameplate rating).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0603	GENERATING UNIT JOINT OWNERSHIP	2 of 2

Data Field Number	Instructions
6	Per Cent Ownership (N3.2) PCT: Enter the percentage of ownership represented by each entry for a unit-owner combination.
7	Name of Owner (A35): Enter the name of each joint owner of each unit within the plant. Abbreviate if necessary. (IDNAME)
8	Name of Operator (A35): Enter the name of the operator of each jointly owned unit. (IDNAME)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0604	HYDROELECTRIC PLANT DESIGN DATA	1 of 3

I. DESCRIPTION

This schedule is used to collect data on design parameters of hydroelectric plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with hydroelectric installed capacity of 10 megawatts or greater during the subject year. Do not report pumped storage data on this schedule.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Kind of Plant (N1): Enter "1" for run-of-river, or enter "2" for storage. (INETOR)
4	Construction Type (A1): Enter "C" for Conventional; "S" for Semi-Outdoor; or "F" for Full Outdoor. (TYCONS)
5	Year Constructed (N4): Report the year in which construction originally began, in the format YYYY. (TMYEAR)
6	Year Last Unit Installed (N4): Report the year in which the last generating unit was installed, in the format YYYY. (TMYEAR)
7	Drainage Area (N7) SQMI: Enter the drainage area (in square miles) of the plant.
8	Most Favorable Condition Capability (N5.2) MW: Report the net plant capability under the most favorable operating conditions.
9	Most Adverse Condition Capability (N5.2) MW: Report the net plant capability under the most adverse operating conditions.
10	Estimated Average Annual Potential Output (N12) MWH: Enter the estimated average annual potential output on the basis of present installed capacity.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0604	HYDROELECTRIC PLANT DESIGN DATA	2 of 3

Data Field Number	Instructions
11	Stream Flow Year Used (N4): Specify which year of stream flow may be used to determine both the magnitude and distribution of the average potential output. (TMYEAR)
12	Output 50 Per Cent Load (N10) MW: Enter the MW output for 50 per cent load.
13	Estimated Overall Water Use at 50 Per Cent Load (N7) CFS/KW: Report overall water use (in C.F.S. per KW) under headwater conditions which approximate average conditions.
14	Gross Head - 50 Per Cent Load (N7) FT: Enter the gross head (in feet) which corresponds to the water use data reported in data field 13 above.
15	Net Head - 50 Per Cent Load (N7) FT: Enter the net head (in feet) which corresponds to the water use data reported in data field 13 above.
16	Output 75 Per Cent Load (N10) MW: Enter the MW output for 75 per cent load.
17	Estimated Overall Water Use at 75 Per Cent Load (N7) CFS/KW: Report estimated overall water use (in C.F.S. per KW) at 75 per cent load under headwater conditions which approximate average conditions.
18	Gross Head - 75 Per Cent Load (N7) FT: Enter the gross head (in feet) which corresponds to the water use data reported in data field 17 above.
19	Net Head - 75 Per Cent Load (N7) FT: Enter the net head (in feet) which corresponds to the water use data reported in data field 17 above.
20	Output Full Load (N10) MW: Enter the MW output for full load.
21	Estimated Overall Water Use at Full Load (N7) CFS/KW: Report estimated overall water use (in C.F.S. per KW) at full load under headwater conditions which approximate average conditions.
22	Gross Head - Full Load (N7) FT: Enter the gross head (in feet) which corresponds to the water use data reported in data field 21 above.
23	Net Head - Full Load (N7) FT: Enter the net head (in feet) which corresponds to the water use data reported in data field 21 above.

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DETAILED INSTRUCTIONS: SCHEDULE 0604	HYDROELECTRIC PLANT DESIGN DATA	3 of 3

Data Field Number	Instructions
24	Method of Operation (N1): Enter "1" for automatic or remote control; "2" for semi-automatic; or "3" for manual method of operation. (TYPLOP)
25	Number of Future Units (N2) NO: Enter the number of future units provided for in the present plant.
26	Capacity Future Units (N5.2) MW: Report the total capacity of all future units reported in data field 25 above.
27	Planned Ultimate Generating Capacity (N5.2) MW: Report the planned ultimate generating capacity for the plant.
28	Full Level Pond Area (N6) ACRE: Enter the area (in acres) of the pond at normal full pond level (in acres).
29	Maximum Drawdown (N4) FT: Report the maximum drawdown (in feet) from normal full pond level.
30	Storage From Maximum Drawdown (N8) ACFT: Report the storage or pondage (in acre feet) from maximum drawdown.
31	Full Gross Head (N5) FT: Enter the gross head (pond elevation minus tailwater elevation; in feet) with full pond and full station load.
32	Full Effective Net Head (N5) FT: Enter the effective net head (gross head minus intake and conduit losses in feet) with full pond and full station load.
33	Normal Full Pond Elevation (N5) FT: Report normal full pond elevation as measured (in feet) above mean sea level.
34	Pond Elevation in Estimate (N5) FT: Enter the pond elevation (in feet) used in estimating water use in data fields 13, 17 and 21 above.
35	Storage Location ID (N2): Enter the unique numeric identification code (1 through 4) assigned (by the respondent) sequentially to each developed storage location above site. Up to four possible storage locations can be entered in data fields 35, 36, and 37. (NRCADL)
36	Drainage Area (N5) ACRE: For each of the corresponding storage locations identified, enter the drainage area (in acres).
37	Hydro Usable Volume (N9) ACFT: For each of the corresponding storage locations identified, enter the usable storage volume (in acre feet).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0605	HYDROELECTRIC GENERATING UNIT DESIGN DATA	1 of 3

I. DESCRIPTION

This schedule is used to collect data on hydroelectric generating units (waterwheels and generators). Do not include pumped storage units on this schedule.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with hydroelectric installed capacity of 10 megawatts or greater during the subject year. Do not report pumped storage data on this schedule. Repeat data fields 4-29 for each unit within a plant.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions and deletions.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Power House Generating Group ID (A5): Enter the unique power house generating group identification code, assigned by the respondent to each group within the plant. Report only those generating units which belong to this particular power house. (IDHQPT)
4 (Key)	Generating Unit ID (A5): Enter the unique generating unit identification code, assigned by the respondent. This is the respondent's commonly used designation for the unit. This code is to be used whenever referring to this generating unit. (IDHQPT)
5	Auxiliary Unit Indicator (N1): Enter "1" if the generating unit is an auxiliary unit; "0" if a main unit. (INYCMO)
6	Design Head (N4) FT: Enter the design head (in feet) of the waterwheel associated with each generating unit.
7	Gross Static Head (N4) FT: Enter the gross static head (in feet) of the waterwheel associated with each generating unit. This refers to gross head with pond full.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0605	HYDROELECTRIC GENERATING UNIT DESIGN DATA	2 of 3

Data Field Number	Instructions
8	Unit RPM (N4) RPM: Enter the operating speed (in RPM) of the waterwheel associated with each generating unit.
9	Design Head Maximum Capacity (N6) HP: Enter the maximum capacity (in horsepower), at design head, of the waterwheel associated with each generating unit.
10	Type of Runner (A1): Enter the abbreviation for waterwheel runner associated with each generating unit, from the Register of Data Standards, TYWRR.
11	Overload Capacity (N3) PCT: Enter the continuous overload capacity (in per cent) of each generating unit.
12	Voltage (N6) KV: Enter the voltage of each generating unit (in kilovolts).
13	Indicate Attended/Unattended (N1): Is the waterwheel attended or unattended? Enter "1" for attended; "2" for unattended. (INATOR)
14	Waterwheel Type (N1): Enter the type of waterwheel associated with each generating unit. Use one the the following codes, from the Register of Data Standards, TYWRTR: 1 - Horizontal 2 - Vertical 3 - Inclined
15	Waterwheel Year Installed (N4): Enter the year in which the waterwheel associated with each generating unit was installed, in the format YYYY. (INYEAR)
16	Indicator Waterwheel New (N1): Was the waterwheel new when installed? Enter "1" for yes; "0" for no. If the answer is "no", complete data field 17 or 18 below. (INYCMO)
17	Waterwheel Year Manufactured (N4): Enter the year in which the waterwheel was manufactured only if the answer in data field 16 above is "no" and waterwheel was not rebuilt when installed, in the format YYYY. (INYEAR)
18	Waterwheel Year Rebuilt (N4): Enter the year in which the waterwheel was rebuilt if the answer to data field 16 above is "no" and if the waterwheel was rebuilt when installed, in the format YYYY. (INYEAR)
19	Waterwheel Manufacturer (A4): Enter the abbreviation for the manufacturer of the waterwheel associated with each generating unit, from the Register of Data Standards, IDMFRQ.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0605	HYDROELECTRIC GENERATING UNIT DESIGN DATA	3 of 3

Data Field Number	Instructions
20	Generator Nameplate Rating (N5.2) MVA: Enter the nameplate rating generating capacity (in MVA) of each generating unit.
21	Nameplate Rating (N5.2) MW: Enter the nameplate rating generating capacity (in MW) of generating unit.
22	Power Factor (N1.2) NO: Enter the nameplate rating power factor of each generating unit.
23	Generator Phase (N1) NO: Enter the phase of each generating unit. Report "1", "2", or "3".
24	Generator Frequency (N2) HZ: Enter the frequency of each generating unit. For example, report "60" or "25" Hertz.
25	Generator Year Installed (N4): Enter the year in which each generating unit was installed. (TMYEAR)
26	Indicator Generator New (N1): Was the generating unit new when installed? Enter "1" for yes; "0" for no. If the answer is "no", complete data field 27 or 28 below. (INYONO)
27	Generator Year Manufactured (N4): Enter the year in which the generating unit was manufactured if the answer to data field 26 above is "no" and if the generator was not rebuilt when installed, in the format YYYY. (TMYEAR)
28	Generator Year Rebuilt (N4): Enter the year in which the generating unit was rebuilt if the answer to data field 26 above is "no" and if the generator was rebuilt when installed, in the format YYYY. (TMYEAR)
29	Generator Manufacturer (A4): Enter the abbreviation for the manufacturer of each generating unit, from the Register of Data Standards, TDMVEO.

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R&S	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0606	HYDROELECTRIC PLANT CAPABILITY DATA	1 of 3

I. DESCRIPTION

This schedule is used to collect data on hydroelectric plant dependable hydroelectric capacity and potential energy.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities with systems designated as Type I.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. General instructions and definitions.

1. The data to be reported are intended to present a realistic picture of the potential energy and capacity of system hydroelectric plants under the specified flow conditions. The data to be reported should be based upon an assumed schedule of system operation that would permit serving the maximum possible annual system load with existing facilities and arrangements for purchase or sale of firm power, assuming a continuance of the relative seasonal and hourly variations of load that occurred during the year of this report. Contracts for purchase or interchange of off-peak energy also may be taken into account in determining the magnitude of the seasonal load that could be carried by the system and the necessary scheduling of system operations, provisions for necessary maintenance scheduling and reserve capacity to be supplied by own system should be taken into account.

2. The information to be reported under adverse flow conditions should, in general, be based on stream flows equivalent for the year giving the most adverse flow conditions of record during the critical period of system operation. Where stream-flow records indicate that the most adverse flows are not likely to occur except at long intervals of time and are likely to be of a very short duration, the figures used in determining the capacity and energy available from hydro plants may be modified, treating such abnormal limitations as emergency conditions to be covered by the reserve capacity; such modifications, however, should be fully explained. Any system which maintains comparable data based on flows during a year which would give the minimum potential annual output, or based on minimum flow or output for each month, may report on whichever basis it believes will present the most realistic condition for its system. The basis of reporting should be fully explained in the space provided and footnotes.

3. Information to be reported under average or median flow conditions may be made on the assumption of the recurrence of flows equivalent to a year which would give the average annual potential output or may be based on median flow or output for each month, or average flow or output for each month, whichever it is believed will present the most realistic condition for its system. The basis of reporting should be fully explained in footnotes.

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DETAILED INSTRUCTIONS: SCHEDULE 0606	HYDROELECTRIC PLANT CAPABILITY DATA	2 of 3

4. "Run-of-river" refers to those plants whose operations cannot be regulated over a period of more than a few hours, either from storage at site or above, but whose operation is, in general, controlled by the volume of flow which must be utilized as it occurs or be wasted.

"Storage" refers to those plants whose operations can be varied as desired because of storage at site or above. This regulation may be weekly, monthly, or seasonal.

"Total available energy" refers to the maximum potential output of the existing hydro-generating facilities on the basis of the regulated stream flow, regardless of whether such output can be fully utilized in serving system load or by transfer to other systems. The monthly distribution of storage energy should be such as to permit the serving of the maximum annual peak load under the conditions outlined in instruction 1. However, where required releases for irrigation, navigation, flood control, and other water-use are controlling, the monthly distribution of available energy should reflect the effect of such requirements and full explanation should be given in footnotes.

"Capability" in any month is the machine capability under the most adverse conditions to be expected in that month under the assumed flow conditions without respect to the energy available or the characteristics of the load to be served other than the power factor conditions normally to be expected.

"Dependable capacity" in any month is that capacity that can be relied upon for serving system load and firm power commitments on the basis of the energy available in that month and its use as limited by the characteristics of the load to be served.

5. Dependable hydroelectric capacity as used in this power system statement is intended to be the capacity value of the system hydroelectric plants in serving together with the other available system capacity, the maximum annual system peak load under the conditions given in instruction 1. For any specified period, on the basis of complete utilization of available storage energy over the critical flow periods, it represents the difference between the peak load for that period and the maximum other capacity required. Where a portion of storage energy is scheduled to be held as a reserve for emergency use only the dependable capacity should also include the reserve capacity value of such energy reserve.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5). Enter the code, from the Register of Data Standards, IDPLNT.

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DETAILED INSTRUCTIONS: SCHEDULE 0606	HYDROELECTRIC PLANT CAPABILITY DATA	3 of 3

Data Field Number	Instructions
2 (Key)	Type of Flow Condition (N1): Enter either "1" for adverse conditions, or "2" for median or average conditions, as explained in instructions C.2 and C.3 in General Information section. Initial submission must have both conditions, requiring two schedules per plant. (INETOR)
3 (Key)	Date Year (N4): Year for which data is reported. Report year, in the format YYYY. (TMYEAR)
4	Basis for Reporting Flow Data (A50): As explained in instruction C.2 in General Information section. (IDDESC)
5 (Key)	Month (N2): Enter the code, from the Register of Data Standards, TMMOTR.

NOTE: Enter energy figures in data fields 6 and 7 for storage plants, in data field 8 for run-of-river plants.

6	Natural Flow (N6) MWH: Enter energy from natural flow for each storage plant.
7	Storage (N6) MWH: Enter energy in storage. When energy is drawn from storage, show as positive quantity; when energy is stored, show as negative quantity, as explained in General Instructions.
8	Run-of-River (N6) MWH: Enter energy for each run-of-river plant.
9	Total Available (N6) MWH: Total available energy, sum of data fields 6 and 7 above for each storage plant and quantity in data field 8 above for each run-of-river plant.
10	In Storage End of Month (N6) MWH: Change in storage based on entry in data field 7 above.
11	Machine Capability Run-of-River (N5.2) MW: For each run-of-river plant only.
12	Machine Capability Storage (N5.2) MW: For each storage plant only.
13	Dependable Capacity (N5.2) MW: As defined in instruction C.4 of General Information.

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FEDERAL POWER COMMISSION
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DETAILED INSTRUCTIONS:
SCHEDULE 0607 PUMPED STORAGE PLANT DESIGN DATA

I. DESCRIPTION

This schedule is designed to collect data on design parameters of pumped storage plants.

II. GENERAL INFORMATION

A. This schedule will be submitted by electric utilities for all plants with pumped storage electric installed capacity of 10 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3	Pumped Storage Conventional (N1): Enter "1" if the plant being reported herein is part of a combined pumped storage and conventional operation; if not, enter "0" (i.e., pure pumped storage). (INYCONO)
4	Year Constructed (N4): Enter the year in which plant construction began, in the format YYYY. (TMYEAR)
5	Year Last Unit Installed (N4): Enter the year in which the last generating unit was installed, in the format YYYY. (TMYEAR)
6	Type Construction (A1): Enter "C" for Conventional; "S" for Semi-Outdoor; or "F" for Full Outdoor. (TYCONS)
7	Power Factor (N1.2) NO: Report power factor to be expected at time of system peak in per unit.
8	Net Capability at Maximum Head (N7) MW: Report the net plant capability at maximum head.
9	Net Capability at Minimum Head (N7) MW: Report the net plant capability at minimum head.

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DETAILED INSTRUCTIONS:
SCHEDULE 0607 PUMPED STORAGE PLANT DESIGN DATA

Data Field Number	Instructions
10	Annual Generation (N11) MWH: Report the estimated average annual generation.
11	Pumping Energy (N11) MWH: Report the estimated average annual pumping energy.
12	Method of Operation (N1): Enter "1" for automatic or remote control; "2" for semi-automatic; and "3" for manual. (TYPLOP)
13	Number of Future Units (N2) NO: Enter the number of future units provided for in the present plant configuration.
14	Capacity Future Units (N5.2) MW: Report the total capacity of the units listed in data field 13 above.
15	Planned Ultimate Generating Capacity (N5.2) MW: Report the total planned ultimate generating capacity of the plant.
16	Output Amount - 50 Per Cent Load (N7) MW: Specify output at 50 per cent station load.
17	Estimated Water Use - 50 Per Cent Load Maximum (N4) CFS/KW: Report the estimated water use at 50 per cent station load, under maximum head conditions.
18	Estimated Water Use - 50 Per Cent Load Minimum (N4) CFS/KW: Report as in data field 17 above, except under minimum head conditions.
19	Output Amount - 75 Per Cent Load (N7) MW: Specify output at 75 per cent station load.
20	Estimated Water Use - 75 Per Cent Load Maximum (N4) CFS/KW: Report as in data field 17 above, for 75 per cent station load.
21	Estimated Water Use - 75 Per Cent Load Minimum (N4) CFS/KW: Report as in data field 18 above, for 75 per cent station load.
22	Output Amount - Full Load (N7) MW: Specify output at full station load.
23	Full Load - Maximum Head (N4) CFS/KW: Report as in data field 17 above, for full station load.
24	Full Load - Minimum Head (N4) CFS/KW: Report as in data field 18 above, for full station load.
25	Overall - Maximum Head (N5.2) PCT: Overall conversion effi-

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0607	PUMPED STORAGE PLANT DESIGN DATA	3 of 4

Data Field Number	Instructions
25 (cont'd)	ciency (kilowatt hour output divided by kilowatt hour input) under maximum head conditions.
26	Overall - Minimum Head (N5.2) PCT: Report as in data field 25 above, but for minimum head conditions.
27	Full Station Load Pumping - Maximum (N7) MW: Full station load pumping under maximum head conditions.
28	Full Station Load Pumping - Minimum (N7) MW: Report as in data field 27 above, but for minimum head conditions.
29	Upper Pond Area (N6) ACRE: Area of upper pond at normal full pond level.
30	Lower Pond Area (N6) ACRE: Area of lower pond at normal full pond level.
31	Maximum Drawdown - Upper Pond (N4) FT: Maximum drawdown from normal full pond level of upper pond.
32	Maximum Drawdown - Lower Pond (N4) FT: Maximum drawdown from normal full pond level of lower pond.
33	Upper Pond Storage (N8) ACFT: Report, for the upper pond, the storage or pondage from maximum drawdown.
34	Lower Pond Storage (N8) ACFT: Report, for the lower pond, the storage or pondage from maximum drawdown.
35	Normal Upper Pond Elevation (N5) FT: Report the normal full pond elevation of the upper pond (above mean sea level).
36	Normal Lower Pond Elevation (N5) FT: Report the normal full pond elevation of the lower pond (above mean sea level).
37	Gross Maximum Head (N5) FT: Specify the gross maximum head under full station load (upper pond elevation minus lower pond elevation).
38	Gross Minimum Head (N4) FT: Specify the gross minimum head under full station load (upper pond elevation minus lower pond elevation).
39	Net Maximum Head (N4) FT: Report the effective net maximum head under full station load (gross head minus intake and conduit losses).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0607	PUMPED STORAGE PLANT DESIGN DATA	4 of 4

Data Field Number	Instructions
40	Net Minimum Head (N4) FT: Report the effective net minimum head under full station load (gross head minus intake and conduit losses).
41	Upper Pool Storage (N4) MWH: Enter the storage in upper pool.
42	Upper Pool Storage - Hours (N4) HR: Enter the storage in upper pool as a measure of the hourly use of net plant capability.
43	Pump Starting Method (A35): Enter a brief description of the pump starting method. Abbreviate if necessary. (IDDESC)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0608	PUMPED STORAGE GENERATING UNIT DESIGN DATA	1 of 3

I. DESCRIPTION

This schedule is used to collect data on pumped storage generating units (including waterwheels of hydroelectric turbine pumps, generators or generator/motors).

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with pumped storage installed capacity of 10 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Do not report separate motor-driven pumps on this schedule.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Power House Generating Group ID (A5): Enter the unique power house generating group identification code, assigned by the respondent to each group. Report only those generating units which belong to the same generating group, on a single page of this schedule. (IDEQPT)
4 (Key)	Generating Unit ID (A5): Enter the unique generating unit identification code, assigned by the respondent to the units within each plant. This is the commonly used designation, and should always be used when referring to this unit. (IDEQPT)
5	Indicate Unit Auxiliary/Main (N1): Is the generating unit an auxiliary or main unit? Enter "1" for auxiliary; "2" for main. (INETOR)
6	Indicate Attended/Unattended (N1): Is the generating unit an attended unit? Enter "1" for attended; "2" for unattended. (INETOR)
7	Unit Design Head (N4) FT: Enter the design head (in feet) of the waterwheel associated with each generating unit.

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DETAILED INSTRUCTIONS: SCHEDULE 0608	PUMPED STORAGE GENERATING UNIT DESIGN DATA	2 of 3

Data Field Number	Instructions
8	Gross Static Head (N4) FT: Enter the gross static head (in feet) of the waterwheel associated with each generating unit. This refers to gross head with pond full.
9	Operating Head as Turbine (N4) RPM: Enter the operating head (in RPM) of the waterwheel as a turbine.
10	Operating Head as Pump (N4) RPM: Enter the operating head (in RPM) of the waterwheel as a pump.
11	Maximum Capacity (N5.2) HP: Enter the maximum capacity (in horsepower) at design head of the waterwheel.
12	Runner Type (A1): Enter the abbreviation for runner (waterwheel) associated with each generating unit, from the Register of Data Standards, TYWRRN.
13	Waterwheel Type (N1): Enter the type of waterwheel associated with each generating unit. Use one of the following codes, from the Register of Data Standards, TYWWFR. 1 - Horizontal 2 - Vertical 3 - Inclined
14	Year Installed (N4): Enter the year in which the waterwheel associated with each generating unit was installed, in the format YYYY. (TMYEAR)
15	Indicator New When Installed (N1): Was the waterwheel new when installed? Enter "1" for yes; "0" for no. If the answer is "no", complete data field 23 or 24 below. (INYONO)
16	Year Manufactured (N4): Enter the year in which the waterwheel was manufactured only if the answer to data field 15 above is "no" and waterwheel was not rebuilt when installed, in the format YYYY. (TMYEAR)
17	Year Rebuilt (N4): Enter the year in which the waterwheel was rebuilt when installed, in the format YYYY. (TMYEAR)
18	Waterwheel Manufacturer (A4): Enter the abbreviation for manufacturer of the waterwheel associated with each generating unit, from the Register of Data Standards, IDMFEQ.
19	Indicator Generator/Motor (N1): Is the unit a generator or generator/motor? Enter "1" for generator; "0" for generator/motor. (INYONO)

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DETAILED INSTRUCTIONS: SCHEDULE 0608	PUMPED STORAGE GENERATING UNIT DESIGN DATA	3 of 3

Data Field Number	Instructions
20	Generator Nameplate Rating (N5.2) MVA: Enter the nameplate rating (in MVA) of each generator.
21	Motor Nameplate Rating (N6) KVA: Enter the nameplate capacity rating (in KVA) of the generator or generator/motor.
22	Nameplate Rating (N5.2) MW: Enter the nameplate rating generating capacity (in MW) of each generator.
23	Power Factor (N1.2) NO: Enter the nameplate rating power factor of each generator (in per unit).
24	HP Power Rating (N5.2) HP: Enter the nameplate capacity rating (in horsepower) of the motor.
25	Voltage (N5.2) KV: Enter the voltage of the generator or generator/motor (in kilovolts).
26	Phase (N1) NO: Enter the phase of each generator or generator/motor. Enter "1", "2", or "3".
27	Frequency (N2) HZ: Enter the frequency of each generator or generator/motor. For example, report "60" Hertz or "00" for DC.
28	Year Generator Installed (N4): Enter the year in which each generator or generator/motor was installed, in the format YYYY. (TMYEAR)
29	Indicator New When Installed (N1): Was the generator or generator/motor new when installed? Enter "1" for yes; "0" for no. If the answer is "no", complete data field 30 or 31 below. (INTONO)
30	Year Manufactured (N4): Enter the year in which the generator or generator/motor was manufactured if the answer to data field 29 above is "no" and if the unit was not rebuilt when installed, in the format YYYY. (TMYEAR)
31	Year Rebuilt (N4): Enter the year in which the generator or generator/motor was rebuilt if the answer to data field 29 above is "no" and if the unit was rebuilt when installed, in the format YYYY. (TMYEAR)
32	Generator/Motor Manufacturer (A4): Enter the abbreviation for the manufacturer of each generator or generator/motor, from the Register of Data Standards, IDMFRO.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0609	PUMPED STORAGE PLANT SEPARATE MOTOR-DRIVEN PUMPS, DESIGN DATA	1 of 2

I. DESCRIPTION

This schedule is designed to collect data on separate motor-driven pumps installed at pumped storage generating plants.

II. GENERAL INFORMATION

A. This schedule will be submitted by electric utilities for all plants with pumped storage installed capacity of 10 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPM)
3 (Key)	Power House Generating Group ID (A5): Enter the unique power house generating group identification code assigned by the respondent (as defined in Part III of the General Instructions for Electric Utility Respondents). (IDBQPT)
4 (Key)	Motor-Driven Pump ID (N2): Enter the unique identification code assigned (by the respondent) sequentially to each motor-driven pump within the generating group. Once assigned, this code must be used to identify the pump on each submission. (IDBQPT)
5	Pump Type (N1): Enter the code, from the Register of Data Standards, TYPUMP.
6	Horsepower Name-plate Rating (N6) HP: Enter the name-plate capacity rating of each separate motor-driven pump.
7	MVA Name-plate Rating (N6) MVA: Enter the name-plate capacity rating of each separate motor-driven pump.
8	Phase (N1) NO: Enter the phase of each separate motor-driven pump (enter "1", "2" or "3").
9	Frequency (N2) HZ: Enter the frequency, or D.C., whichever applies, for each separate motor-driven pump (i.e., report "60" Hertz or "00" for DC).

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DETAILED INSTRUCTIONS: SCHEDULE 0609	PUMPED STORAGE PLANT SEPARATE MOTOR-DRIVEN PUMPS, DESIGN DATA	2 of 2

Data Field Number	Instructions
10	Operating Speed (N4) RPM: Enter the operating speed of each separate motor-driven pump.
11	Power Factor (N1.2) NO: Enter the power factor for each motor-driven pump.
12	Voltage (N5.2) KV: Enter the voltage for each motor-driven pump.
13	Year Pump Installed (N4): Enter the year in which each separate motor-driven pump was installed, in the format YYYY. (TMYEAR)
14	New When Installed Indicator (A1): Was the pump new when installed? Enter "1" for yes; "0" for no. If the answer is no, complete data fields 15 or 16 below. (INYONO)
15	Year Manufactured (N4): Enter the year in which the pump was manufactured only if the answer to data field 14 above is "no" and if the pump was not rebuilt when installed, in the format YYYY. (TMYEAR)
16	Year Rebuilt (N4): Enter the year in which the pump was rebuilt if the answer to data field 14 above is "no" and if the pump was rebuilt when installed, in the format YYYY. (TMYEAR)
17	Manufacturer (A4): Enter the code for the manufacturer of each separate motor-driven pump, from the Register of Data Standards, IDMFRO.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0610 INTERNAL-COMBUSTION AND GAS-TURBINE PLANT DESIGN DATA		1 of 2

I. DESCRIPTION

This schedule is used to collect data on the design characteristics of internal-combustion and gas-turbine electric generating equipment.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for electric generating plants with internal-combustion and gas-turbine equipment of 10 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number.

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter "IC" for internal-combustion engines; "GT" for gas-turbines. If a plant is equipped with both types of units, report each type separately using the same plant code in data field 1 above. (TYPLPW)
3	Construction Type (A1): Enter the abbreviation, from the Register of Data Standards, TYCONS.
4	Indicator Plant for Peak Load (N1): Enter "1" if the plant is designed for peak load service; if not, enter "0". (INYONO)
5	Year Originally Constructed (N4): Enter the year in which the plant was originally constructed, in the format YYYY. (TMYEAR)
6	Year Last Unit Installed (N4): Enter the year in which the last unit was installed at the plant, in the format YYYY. (TMYEAR)
7	Power Factor (N1.2) NO: Enter the power factor condition (in per unit) normally expected at time of system peak. Note: The capabilities reported in data fields 8-10 below must be based on the power factor entered in data field 7.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0610 INTERNAL-COMBUSTION AND GAS-TURBINE PLANT DESIGN DATA		2 of 2

Data Field Number	Instructions
8	One-Hour Load Net Capability (N5.2) MW: Enter net plant capability (in megawatts) for loads of one-hour duration. Note: This entry must be based on the power factor condition normally to be expected at time of system peak, as entered in data field 7 above.
9	Two-Hour Load Net Capability (N5.2) MW: Enter net plant capability (in megawatts) for loads of two-hour duration. Note: This entry must be based on the power factor condition normally expected at time of sytem peak, as entered in data field 7 above.
10	Continuing Load Net Capability (N5.2) MW: Enter net plant capability (in megawatts) for loads of continuous duration. Note: This entry must be based on the power factor condition normally expected at time of system peak, as entered in data field 7 above.
11	Operation Method (N1): Enter one of the following codes for the method of plant operation: "1" - automatic; "2" - semi-automatic; and "3" - manual. (TYPLOP)
12	Number Future Units (N2) NO: Enter the number of future units provided for in present plant.
13	Capacity of Future Units (N6) MW: Enter the capacity (in megawatts) of future units provided for in present plant.
14	Ultimate Generating Capacity (N7) MW: Enter the planned ultimate generating capacity (in megawatts) of the plant.
15	Indicator Power Station (N1): If the internal-combustion or gas-turbine plant is located at a power substation, enter "1" in this data field; if not, enter "0". (INYONO)
16	Land Area for Existing Plant (N4) ACRE: Enter the land area (in acres) in use for the existing plant. Include land for generating plant, fuel storage areas, waste, disposal areas, etc.
17	Land Area for Ultimate Plant (N4) ACRE: Enter the total land planned or estimated (in acres) to be required for new units or new plant facilities at this location.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0611	INTERNAL-COMBUSTION AND GAS-TURBINE GENERATING GROUP DECISION DATA	1 of 3

I. DESCRIPTION

This schedule is designed to collect data on internal-combustion or gas-turbine generating groups.

II. GENERAL INFORMATION

A. This schedule shall be submitted annually by electric utilities for all plants with internal-combustion or gas-turbine installed capacity of 10 megawatts or greater during the subject year.

B. Respondents shall complete all data field on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Note that this schedule defines elements for generating groups. For gas-turbine units, a generating group is defined as any collection of gas-turbine generating units that are controlled from the plant control room through a single control house (cubicle). In the case of a single unit having unique characteristics, assign a generating group I.D., then complete the schedule for that unit. Internal-combustion units are reported as a single unit to the group.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter "IC" for internal-combustion engines; "GT" for gas-turbine, TYPLPW.
3 (Key)	Internal-Combustion Gas-Turbine Generating Group ID (A5): Enter the unique identification code, assigned by the respondent to each generating group. Note: See General Information, II-C. (IDEQPT)
4	Combined Cycle Steam-Electric Generating Group ID (A5): Enter the unique identification code, assigned by the respondent to the steam-electric generating group that operates in combined-cycle with this gas-turbine generating group. (IDEQPT)
5	Generating Unit ID (A5): Enter the unique identification code, assigned by the respondent to each generating unit. (IDEQPT)
6	Year Prime Mover Installed (N4): Enter the year in which the engines or turbines were installed, in the format YYYY. (TMYEAR)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0611	INTERNAL-COMBUSTION AND GAS-TURBINE GENERATING GROUP DESIGN DATA	2 of 3

Data Field Number	Instructions
7	Prime Mover Cycle Type (A2): Enter one of the following codes for the basic cycle of each group of engines or turbines: (TYPLPW) OO - Open cycle gas-turbine I2 - Two-cycle internal-combustion engine I4 - Four-cycle internal-combustion engine CC - Closed cycle gas-turbine
8	Indicate Belted or Direct Connected (N1): Enter the type of connection of prime mover to generator as follows: Enter "1" for belted; "2" for direct. (INETOR)
9	Rated Horsepower (N7) HP: Enter the rated capacity (in horsepower) of the gas-turbine or internal-combustion prime mover.
10	Generator Nameplate Rating (N5.2) MVA: Enter the nameplate capacity rating (in MVA) of each generating unit (within the group being reported).
11	Nameplate Rating (N5.2) MW: Enter the nameplate capacity rating (in MW) of each generating unit (within the group being reported).
12	Power Factor (N1.2) NO: Enter the nameplate power factor rating of each generating unit (within the group being reported).
13	Operating Speed (N6) RPM: Enter the generating speed (in RPM) of each generating unit (within the group being reported).
14	Voltage (N3.2) KV: Enter the voltage (in KV) of each generating unit (within the group being reported).
15	Phase (N1) NO: Enter the phase of each generating unit (within the group being reported). Enter "1", "2", or "3".
16	Frequency (N2) HZ: Enter the frequency of each generating unit (within the group being reported). For example, report "60" Hertz.
17	Generator Year Installed (N4): Enter the year in which the generator group was installed, in the format YYYY. (TMYEAR)
18	Indicator Generator New When Installed (N1): Was the generator(s) new when installed? Enter "1" for yes; "0" for no. If the answer is "no", complete data fields 19 and 20 below. (INYONO)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0611	INTERNAL-COMBUSTION AND GAS-TURBINE GENERATING GROUP DESIGN DATA	3 of 3

Data Field Number	Instructions
19	Year Generator Manufactured (N4): Enter the year in which the generator(s) were manufactured, only if the answer to data field 18 is "no", in the format YYYY. (YMYEAR)
20	Year Generator Rebuilt (N4): Enter the year in which the generator(s) were rebuilt, only if the answer to data field 18 is "no", in the format YYYY. (YMYEAR)
21	Generator Manufacturer (A4): Enter the abbreviation, from the Register of Data Standards, IDMFRQ.
22	Fuel Consumption - 50 Per Cent Load (N6) BTU/KWH: Enter the design fuel consumption of the engine or turbine when operating at 50 per cent load.
23	Output - 50 Per Cent Load (N10) MW: Enter the output (in megawatts) of the generator at 50 per cent load.
24	Fuel Consumption - 75 Per Cent Load (N6) BTU/KWH.
25	Output - 75 Per Cent Load (N10) MW.
26	Fuel Consumption - Full Load (N6) BTU/KWH.
27	Output - Full Load (N10) MW.
28	Turbine Inlet Air Temperature (N4) DEGF: Enter the inlet air temperature (in degrees Fahrenheit) of gas-turbine units only.
29	Turbine Inlet Gas Temperature (N4) DEGF: Enter the inlet gas temperature (in degrees Fahrenheit) of gas-turbine units only.
30	Turbine Exhaust Gas Temperature (N4) DEGF: Enter the exhaust gas temperature (in degrees Fahrenheit) of gas-turbine units only.
31	Prime Mover Manufacturer (A4): Enter the abbreviation, from the Register of Data Standards, IDMFRQ.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0612	STEAM-ELECTRIC PLANT DESIGN DATA	1 of 3

I. DESCRIPTION

This schedule is designed to collect general design data on steam-electric generating plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric generating capacity, including nuclear, of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3	Construction Type (A1): Enter one of the following codes: "C" for conventional; "S" for semi-outdoor; or "F" for full outdoor. (TYCONS)
4	Amount of Land in Use (N6) ACRE: Enter total land requirements for generating plant, substation(s), fuel storage area, waste disposal area, and land used by cooling facilities.
5	Year Plant Constructed (N4): Enter the year in which original construction began, in the format YYYY. (TMYEAR)
6	Year Last Unit Installed (N4): Enter the year in which the last generating unit was installed, in the format YYYY. (TMYEAR)
7	Number of Future Units (N2) NO: Enter the total number of future units planned for installation.
8	Capacity Future Units (N5.2) MW: Enter the total capacity, in megawatts, of all future units.
9	Planned Ultimate Generating Capacity (N5.2) MW: Enter the total ultimate generating capacity of the plant in megawatts.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0612	STEAM-ELECTRIC PLANT DESIGN DATA	2 of 3

Data Field Number	Instructions
10	Condenser Water Source (A20): Report the name of the water source for the plant condenser units. (IDDESC)
11	Land Area for Ultimate Plant (N9) ACRE: Enter the projected land area in acres for the plant at ultimate size.
12	Minimum Available Condenser Water (N7) CFS: Enter the minimum amount of condenser water available to the plant in cubic feet per second.
13	Period Capability Limited (N3) DY: Enter the number of days (during one calendar year) when plant capability is normally limited by condenser water or ambient temperature.
14	Time of Year Capability Limited (A7): Enter the three character alphabetic codes for the beginning and ending months of the period when plant capability is limited by condenser water or ambient temperature. For example, if the period begins in July and ends in September, enter "JUL-SEP." The full list of abbreviations for the months of the year is printed in the Register of Data Standards, TMMOYR.
15	Energy Output - 50 Per Cent Load (N6) MW: Enter the output in megawatts for the plant at one-half load, assuming the most efficient combination of units.
16	BTU Consumption - 50 Per Cent Load (N6) BTU/KWH: Enter the half-load fuel consumption in BTU per net kilowatt-hour of station output.
17	Energy Output - 75 Per Cent Load (N6) MW.
18	BTU Consumption - 75 Per Cent Load (N6) BTU/KWH.
19	Energy Output - Full Load (N6) MW.
20	BTU Consumption - Full Load (N6) BTU/KWH.
21	Indicator Use of Steam (N1): Enter one of the following codes: "1" for sold or supplied to other departments; "2" for sold or supplied to industrial companies. (INETOR)
22	Coal State (A2): Enter the abbreviation for the state from which principal coal procurements were made, from the Register of Data Standards, IDSTAT.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0612	STEAM-ELECTRIC PLANT DESIGN DATA	3 of 3

Data Field Number	Instructions
NOTE:	In data fields 23-25 below, report data for continuous use fuels only. Do not enter data for flame stabilization or start-up fuels.
23	Coal BTU (N5) BTU: Enter the average BTU per pound of coal as fired.
24	Oil BTU (N6) BTU: Enter the average BTU per gallon of oil fired.
25	Gas BTU (N5) BTU: Enter the average BTU per cubic foot of gas as fired.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0613	STEAM-ELECTRIC GENERATING UNIT DESIGN DATA, TURBINE DATA	1 of 2

I. DESCRIPTION

This schedule is used to collect data on the design characteristics of steam turbines installed at electric generating plants.

I. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric (including nuclear) installed capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. For cross-compound units, report separately for high-pressure section and low-pressure section.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Generating Group ID (A5): Assign a unique identification code to the "generating group" of which the associated generator is a member. This code need be unique within each plant only. In order to maintain the integrity of the data, this code must be associated with the same generating group from schedule to schedule and from year to year. Please keep records of these permanently assigned codes. (IDEQPT)
4 (Key)	Generating Unit ID (A5): Assign a unique identification code to each generator within the plant. This code should be the commonly used designation. (IDEQPT).
5 (Key)	Turbine ID (A5): Assign a unique five-character identification code for each turbine within the plant. For cross-compound units report the high and low pressure sections seperately, prefacing the identification codes with "H" or "L", respectively. (IDEQPT)
6	Turbine Maximum Rating (N5.2) MW: Enter the maximum nameplate rating of the turbine unit. If installation is dual rated, enter the rating for the turbine-generator only.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0613	STEAM-ELECTRIC GENERATING UNIT DESIGN DATA, TURBINE DATA	2 of 2

Data Field Number	Instructions
7	Casing Type (A2): Code for type of casing, as follows: (TYTURB) TC = Tandem-compound CC = Cross-compound SC = Single casing TU = Topping unit NC = Noncondensing
8	Throttle Steam Pressure (N5) PSIG: Enter the throttle pressure of each turbine unit. For dual rated installation, enter for turbine-generator only.
9	Operating Speed (N7) RPM: Enter operating speed of each turbine.
10	Throttle Temperature (N4) DEGF: Enter throttle temperature.
11	Reheat Temperature (N3) DEGF: Enter the steam temperature of reheat stage of turbine, if applicable.
12	Exhaust Pressure (N2.2) IN/HG: Enter the exhaust pressure of the turbine.
13	Full Load Steam Rate (N6) LB/KWH: Enter the steam rate of turbine at full load.
14	Full Load Heat Rate (N8) BTU/KWH: Enter the heat rate of turbine at full load.
15	Turbine Manufacturer (A4): Enter the abbreviation for the turbine manufacturer, from the Register of Data Standards, IDMFRQ.
16	Year Turbine Installed (N4): Enter the year when turbine was installed, in the format YYYY. (TNYEAR)
17	Indicator New When Installed (N1): Enter "1" for yes, "0" for no. (INYONO)
18	If Not New, Year Turbine Manufactured (N4): Report if "no" answer to data field 17 above, in the format YYYY. (TNYEAR)
19	If Not New, Year Turbine Rebuilt (N4): Report if "no" answer to data field 17 above, in the format YYYY. (TNYEAR)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: STEAM-ELECTRIC GENERATING UNIT DESIGN DATA SCHEDULE 0614 (GENERATING DATA AND COOLING FACILITY)		1 of 3

I. DESCRIPTION

This schedule is designed to collect data on the design parameters of generators and cooling facilities at steam-electric plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric installed capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. The steam-electric generating group is defined as being composed of those generating units and boilers with a common steam header.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only, TYPLPW.
3 (Key)	Generating Group ID (A5): Enter the unique identification number, assigned by the respondent for the steam-electric generating group to which each unit reported in data field 6 belongs. See Part III of the General Instructions for Electric Utility Respondents. (IDEQPT)
4	Steam Energy Source (N2): Enter the two-digit numeric code for nuclear, geothermal, and fossil fuel steam sources for the generator-turbine group identified in data field 3 above, from the Register of Data Standards, TYFUEL.
5	Combined-Cycle Gas-Turbine Generating Group ID (A5): If the generating group identified in data field 3 above operates in combined-cycle with a gas-turbine unit, enter the gas-turbine group identification code. (See Part III of the General Instructions for Electric Utility Respondents.) (IDEQPT)
6 (Key)	Generating Unit ID (A5): Enter the unique commonly used designation for the generating units included in the generating group identified in data field 3 above. (IDEQPT)
7	Indicator Unit Auxiliary/Main (N1): Enter "1" if the unit is auxiliary; "2" if the unit is main. (INMTOR)

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DETAILED INSTRUCTIONS: STEAM-ELECTRIC GENERATING UNIT DESIGN DATA SCHEDULE 0614 (GENERATOR DATA AND COOLING FACILITY)		2 of 3

Data Field Number	Instructions
8	Turbine-Generator Capability (N6) MW: Enter the maximum gross capability (in megawatts) of the associated turbine-generator.
9	Hydrogen Pressure (N4) PSIG: Enter the hydrogen pressure (in PSIG) of the associated turbine-generator.
10	Minimum Nameplate Rating (N7) MW: Enter the minimum nameplate capacity rating (in megawatts) of each generating unit.
11	Maximum Nameplate Rating (N7) MW: Enter the maximum nameplate capacity rating (in megawatts) of each generating unit.
12	Minimum Hydrogen Pressure (N2.1) PSIG: Enter the hydrogen pressure (in PSIG) associated with the minimum nameplate rating reported in data field 10 above.
13	Maximum Hydrogen Pressure (N3) PSIG: Enter the hydrogen pressure (in PSIG) associated with the maximum nameplate rating reported in data field 12 above.
14	Coolant Type (A1): Enter the abbreviation for the coolant used in each generating unit, from the Register of Data Standards, TYCLGM.
15	Power Factor (N1.2) NO: Enter the nameplate power factor of each generating unit.
16	Voltage (N4.2) KV: Enter the voltage (in KV) of each generating unit.
17	Phase (N1) NO: Enter the phase of each generating unit. Enter "1", "2", or "3".
18	Frequency (N2) HZ: Enter the frequency of each generating unit For example, report "60" Hertz.
19	Operating Speed (N4) RPM: Enter the operating speed (in RPM) of generating units.
20	Manufacturer (A4): Enter the abbreviation for the manufacturer of the generating unit, from the Register of Data Standards, IDMFRQ.
21	Year Installed (N4): Enter year when generating unit was installed, in the format YYYY. (TMYEAR)
22	Indicator Generating Unit New When Installed (N1): Enter "1" if the generating unit was installed now; if not, enter "0". (INYONO)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0614	STEAM-ELECTRIC GENERATING UNIT DESIGN DATA (GENERATOR DATA AND COOLING FACILITY)	3 of 3

Data Field Number	Instructions
23	Year Manufactured (N4): Enter the year generating unit was manufactured if not installed new, in the format YYYY. (TMYEAR)
24	Year Rebuilt (N4): Enter the year the generating unit was rebuilt if not installed new, in the format YYYY. (TMYEAR)

NOTE: Data fields 25-27 below, cross-reference the turbine-generator unit to the cooling facility type and the associated condenser.

25	Cooling Facility Type (A3): Enter the code for the type cooling facilities associated with each turbine-generator unit, from the Register of Data Standards, TYCLCD.
26	Cooling Facility ID (A5): Enter the unique identification code, assigned (by the respondent) of the cooling facility associated with each turbine-generator unit. (Same code as on Schedule 0625, data field 3.) (IDEQPT)
27	Temperature Rise (N2): Enter the designed temperature rise across the condenser. (Degrees Fahrenheit).
28	Rate of Flow (N6): Enter the designed rate of flow through the condenser. (CFS).

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DETAILED INSTRUCTIONS: SCHEDULE 0615 — BOILER DESIGN DATA — 1 of 4

I. DESCRIPTION

This schedule is used to collect data on the general design characteristics of fossil fuel-fired boilers at steam-electric generating plants and data where applicable on boilers at nuclear generating plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by all electric utility plants with steam-electric including nuclear generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Report the appropriate fields on this schedule for all steam-electric units including those operated in a combined-cycle with a combustion turbine and nuclear units.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only, TYPLPM.
3 (Key)	Generating Group ID (A5): Enter the unique identification code, assigned by the respondent to the generating group of which the boiler is a part. (IDEQPT)
4 (Key)	Boiler ID (A5): Enter the unique boiler identification code, assigned by the respondent to each boiler. Report only a single boiler in each entry, do not combine two or more boilers in a single entry. This should be the respondent's commonly used designation. (IDEQPT)
5	Information Status (N1): Enter the following codes for the type of report: (TYSTOP) 1 - Placed in operation during the year 2 - Altered during the year 3 - Not previously reported on this schedule 4 - Amended report
6	Manufacturer (A4): Enter the abbreviation, from the Register of Data Standards, IDMFEQ. If the abbreviation for the

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DETAILED INSTRUCTIONS: SCHEDULE 0615 — BOILER DESIGN DATA — 2 of 4

Data Field Number	Instructions
6 (cont'd)	manufacturer is not found in the Register of Data Standards, enter the name in data field 7 below.
7	Name Other Manufacturer (A35): If the name of the manufacturer is not included in the Register of Data Standards, enter the name of the manufacturer in this data field, abbreviate if necessary. (IDNAME)
8	Year Installed (N4): Enter the year in which boiler was placed in service, in the format YYYY. (YMYEAR)
9	Maximum Continuous Steam Capacity (N9) MLB/HR: Enter the maximum continuous steam capacity (in 1000 pounds/hour) of each boiler.
10	Rated Pressure (N4) PSIG: Enter the rated pressure (in PSIG) of each boiler.
11	Boiler Rated Steam Temperature - Initial (N4) DEGF: Enter the initial rated steam temperature (in degrees Fahrenheit) for boiler.
12	Fuel Type (N2): Enter the code for principal fuel burned, from the Register of Data Standards, TYFUEL.
13	Coal Consumption (N4.2) TON/HR: Enter the design fuel consumption of coal (in tons/hour) at 100 per cent rating.
14	Oil Consumption (N4.2) BBL/HR: Enter the design fuel consumption in oil (barrels/hour) at 100 per cent rating.
15	Gas Consumption (N4.2) MCF/HR: Enter the design fuel consumption of gas (in 1000 cubic feet/hour) at 100 per cent rating.
16	100 Per Cent Load Efficiency (N3.2) PCT: Enter the boiler efficiency (in per cent) at 100 per cent load.
17	75 Per Cent Load Efficiency (N3.2) PCT: Enter the boiler efficiency (in per cent) at 75 per cent load.
18	50 Per Cent Load Efficiency (N3.2) PCT: Enter the boiler efficiency (in per cent) at 50 per cent load.
19	Total Air Flow (N6.2) CFM: Enter total air flow (in standard cubic feet/minute) including excess air at 100 per cent load.
20	Excess Air (N3) PCT: Enter per cent of excess air used at 100 per cent load.

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DETAILED INSTRUCTIONS: SCHEDULE 0615	BOILER DESIGN DATA	3 of 4

Data Field Number	Instructions
21	Indicator Wet/Dry Bottom (N1): For coal fired boilers only. Enter "1" for wet bottom; "2" for dry bottom. (INWTOR)
22	Indicator Flyash (N1): If there is flyash reinjection, enter "1" for yes; if not, enter "0". (INYONO)
23	Type of Firing (A4): Enter the code, from the Register of Data Standards, TYBLFR.
24	Name of Other Type Firing (A20): If the type of firing is not specified in the Register of Data Standards, enter the name of "other type". Abbreviate if necessary. (IDDESC)
25	Indicator Burn Coal (N1): Enter "1" if boiler is equipped to burn coal; if not, enter "0". (INYONO)
26	Number of Days to Convert Coal (N3) DY: If the answer to data field 25 above is "yes", but equipment changes or maintenance are required to burn coal, state time period (in days) for completion of such changes or maintenance.
27	Indicator Continuous Coal Burning (N1): Enter "1" for yes, if the boiler is capable of burning coal continuously; if not, enter "0". (INYONO)
28	Explain Not Burning Coal Continuously (A20): Enter a brief description of the reason that the boiler cannot burn coal continuously. (IDDESC)
29	Coal Capacity Derating (N3) PCT: Enter the derating (per cent) of related generator capacity when burning coal.
30	Indicator Oil Burning (N1): Enter "1" for yes, if the boiler is equipped to burn oil; if not, enter "0". (INYONO)
31	Indicator Continuous Oil Burning (N1): Enter "1" for yes, if the boiler is capable of burning oil continuously; if not, enter "0". (INYONO)
32	Oil Capacity Derating (N3) PCT: Enter the derating (per cent) of related generating capacity when burning oil.
33	Indicator Gas Burning (N1): Enter "1" for yes, if the boiler is equipped to burn gas; if not, enter "0". (INYONO)
34	Indicator Firm Gas (N1): If gas is available on a firm basis, enter "1"; if not, enter "0". (INYONO)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0615	BOILER DESIGN DATA	4 of 4

Data Field Number	Instructions
35	Gas Capacity Derating (N3) PCT: Enter the derating (per cent) of related generating capacity when burning gas.
36	Boiler Rated Steam Temperature - Reheat (N4) DEGF: Enter rated steam temperature (in degrees Fahrenheit) to reheat boilers.
37	Year Boiler Manufactured, If Not New (N4): If applicable, enter the year, in the format YYYY. (TMYEAR)
38	Year Boiler Rebuilt, If Not New (N4): If applicable, enter the year, in the format YYYY. (TMYEAR)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULES 0616	COMMON FUEL-FEEDERS BY BOILER	1 of 1

I. DESCRIPTION

This schedule is designed to collect data on the configuration of fuel-feeders common to multiple boilers at steam-electric generating plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all fossil-fueled steam-electric generating plants having common fuel-feeder systems for two or more boilers and which have installed generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. A common fuel-feeder system is defined as a system which supplies any one type of fuel to more than one boiler by means of common distribution equipment. As an example, a plant having two boilers, both served by the same feeder systems for each of three different fuels, would report six common fuel-feeder systems.

D. Complete, in full, a separate entry (i.e., a separate line, in this case) for each boiler served by a common fuel-feeder system.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Generating Group ID (A5): Enter the unique identification code assigned by the respondent to the steam-electric generating group of which the boiler being described is a member. (IDEQPT)
4 (Key)	Boiler ID (A5): Enter the unique identification code assigned by the respondent to each boiler which receives fuel from a common fuel-feeder system. (IDEQPT)
5 (Key)	Fuel-Feeder ID (A5): Enter the unique identification code assigned by the respondent to each fuel-feeder system which serves the boiler being described. (IDEQPT)
6	Type Fuel-Feeder System (N2): Enter the code for the fuel-feeder system, from the Register of Data Standards, TYFUEL.

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DETAILED INSTRUCTIONS: SCHEDULE 0617 — BOILERS SERVED BY FUEL-FEEDER SYSTEMS — 1 of 2

I. DESCRIPTION

This schedule is designed to collect data on the configuration of fuel-feeders common to multiple boilers at steam-electric generating plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all fossil-fueled steam-electric generating plants having common fuel-feeder systems for two or more boilers and which have installed generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. A common fuel-feeder system is defined as a system which supplies any one type of fuel to more than one boiler by means of common distribution equipment. As an example, a plant having two boilers, both served by the same feeder systems for each of three different fuels, would report six common fuel-feeder systems.

D. Complete, in full, a separate entry (a separate line in this case) for each unique combination of a boiler, fuel-feeder system, and fuel type.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLFW)
3 (Key)	Fuel-Feeder ID (A5): Enter the unique identification code assigned by the respondent to each fuel-feeder system at the plant. Once assigned, always use the same code when referring to this fuel-feeder system. (IDEQPT)
4	Fuel Type (N2): Enter the code for the type of fuel associated with each fuel-feeder system, from the Register of Data Standards, TYFUEL.
5 (Key)	Generating Group ID (A5): Enter the unique identification code assigned by the respondent to the steam-electric generating group of which each boiler associated with the common fuel-feeder system is a member. Once assigned, always use the same code when referring to this generating group. (IDEQPT)

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DETAILED INSTRUCTIONS: SCHEDULE 0617 — BOILERS SERVED BY FUEL-FEEDER SYSTEMS — 2 of 2

Data Field Number	Instructions
6	Boiler ID (A5): Enter the unique identification code assigned by the respondent to each boiler which receives fuel from a common fuel-feeder system. Once assigned, always use the same code when referring to this boiler. (IDEQPT)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0618	STACK DESCRIPTIVE DATA	1 of 2

I. DESCRIPTION

This schedule is used to collect data on the design parameters of stacks associated with fossil fuel-fired boilers at steam-electric generating plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for plants with steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Include on separate sheet a stack orientation diagram showing the position of stacks by stack number to correspond with the identification given in data field 3 below. Show true North on the diagram.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Stack ID (A5): Enter a unique stack identification code for each stack assigned by the respondent. This code is to be used whenever referring to this stack. (IDEQPT)
4	Installed Cost (N7) MDOL: Enter the installed cost of each stack at plant (in 1000 dollars).

NOTE: Cost should be reported as the original costs recorded on the utility's books of accounts and unitized as prescribed in the Federal Power Commission List of Units of Property effective January 1, 1961. It is realized certain items are not specifically unitized in the referenced list of property units. In this case the most accurate figure available is desired. In the case of stacks without foundation, include the stack cost plus those added costs which are essential to the stack operation and support.

5	Height Above Ground (N4) FT: Enter the height (in feet) above ground elevation.
6	Inside Diameter (N3) IN: Enter the inside diameter (in inches) of the flue at top of stack.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0618	STACK DESCRIPTIVE DATA	2 of 2

Data Field Number	Instructions
7	Non-Circular Stacks (N3) IN: If stack is not round (i.e., square, oval, etc.), enter the equivalent circumference of the inside diameter (in inches) of the flue at the top of stack.
8	Flue-Gas Rate at 100 Per Cent Load (N5) CFM: Enter the flue-gas rate (in actual cubic feet per minute) at top of stack at 100 per cent load.
9	Flue-Gas Rate at 75 Per Cent Load (N5) CFM: Enter the flue-gas rate (in actual cubic feet per minute) at top of stack at 75 per cent load.
10	Flue-Gas Rate at 50 Per Cent Load (N5) CFM: Enter the flue-gas rate (in actual cubic feet per minute) at top of stack at 50 per cent load.
11	Exit Gas Temperature at 100 Per Cent Load (N3) DEGF: Enter the exit gas temperature (in degrees Fahrenheit) at 100 per cent load.
12	Exit Gas Temperature at 75 Per Cent Load (N3) DEGF: Enter the exit gas temperature (in degrees Fahrenheit) at 75 per cent load.
13	Exit Gas Temperature at 50 Per Cent Load (N3) DEGF: Enter the exit gas temperature (in degrees Fahrenheit) at 50 per cent load.
14	Exit Gas Velocity 100 Per Cent Load (N4) FPS: Enter the exit gas velocity (in feet/second) at 100 per cent load.
15	Exit Gas Velocity 75 Per Cent Load (N4) FPS: Enter the exit gas velocity (in feet/second) at 75 per cent load.
16	Exit Gas Velocity 50 Per Cent Load (N4) FPS: Enter the exit gas velocity (in feet/second) at 50 per cent load.
17	Distance to Next Stack (N3) FT: Enter the distance (in feet) to the next stack (center to center).
18	Orientation of Stacks (N3) DEGG: Enter the orientation (in degrees clockwise from true North) of the line of stacks.
19	Indicate If Diagram (N1): Enter "1" if a diagram is submitted separately; "0" if not. (INYONO)

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R&S	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0619	BOILERS SERVED BY STACKS	1 of 1

I. DESCRIPTION

This schedule is designed to collect data on the interrelationship between stacks and the boilers (i.e., steam generators) served by them at electric generating stations.

II. GENERAL INFORMATION

A. This schedule will be submitted by electric utilities for all plants having installed steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Complete in full a separate entry (i.e., a separate line, in this case) for each combination of stack and boiler served. Thus, for a plant having three stacks each of which serves three boilers, complete nine entries.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Stack ID (A5): Enter the stack identification code for each stack at the plant. This must be a unique code assigned by the respondent. The same code must be used on all schedules when referring to the same stack. Also, the same codes are to be used from year to year. (IDEQPT)
4	Generating Group ID (A5): Enter the unique identification code assigned by the respondent to the steam-electric generating group with which the stack being described is associated. (IDEQPT)
5	Boiler ID (A5): Enter the unique identification code assigned by the respondent to each boiler served by a stack. Complete in full a separate entry (i.e., a separate line, in this case) for each boiler served by each stack. (IDEQPT)

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R&S	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0620	STACKS ASSOCIATED WITH BOILERS	1 of 1

I. DESCRIPTION

This schedule is designed to collect data on the interrelationship between boilers (i.e., steam-generators) and the stacks associated with them at electric generating stations.

II. GENERAL INFORMATION

A. This schedule will be submitted by electric utilities for all plants having installed steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Complete in full a separate entry (i.e., a separate line, in this case) for each combination of boiler and associated stack. Thus, for a plant having three boilers served by three stacks, complete nine entries.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Generating Group ID (A5): Enter the unique identification code assigned by the respondent to the steam-electric generating group of which the boiler being described is a member. (IDEQPT)
4	Boiler ID (A5): Enter the unique identification code assigned by the respondent to each boiler at the plant. (IDEQPT)
5	Stack ID (A5): Enter the unique identification code assigned by the respondent for each stack associated with each boiler being described. (IDEQPT)

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DETAILED INSTRUCTIONS:
SCHEDULE 0621 FLUE-GAS CLEANING EQUIPMENT - DESIGN DATA

I. DESCRIPTION

This schedule is used to collect data on the design parameters of flue-gas cleaning equipment installed at steam-electric generating plants.

II. GENERAL INSTRUCTIONS

A. This schedule shall be submitted by electric utilities for all plants having flue-gas cleaning equipment and which have total installed steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Whenever "combination FGCE" occurs (data field 4 below) do not report the data for separate units.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	FGCE ID (A5): Enter the unique identification code assigned by the respondent for each flue-gas cleaning collector connected to the plant. Once assigned, the same code must always be used when referring to this equipment on all schedules and from year to year. (IDEQPT)
4	FGCE Type (A4): Enter the abbreviation, from the Register of Data Standards, TYPGCE.
5	Mechanical Type 1 (A4): If the collector is mechanical, enter the appropriate abbreviation from the Mechanical FGCE Collector Code specified in the Register of Data Standards, TYPGCE.
6	Mechanical Type 2 (A4): If the collector is mechanical, as coded in data field 4 above, and more than one type of mechanical configuration is used in series, report the second type in this field. Use the same abbreviation as referenced in data field 5 above, TYPGCE.

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DETAILED INSTRUCTIONS:
SCHEDULE 0621 FLUE-GAS CLEANING EQUIPMENT - DESIGN DATA

Data Field Number	Instructions
7	Design Efficiency (N2.2) PCT: Report the design efficiency of the FGCE unit (as a percentage to two decimal places).
8	Rate Mass Emission (N5) LB/HR: Enter the mass emission rate of the FGCE unit (in pounds per hour). $\text{Pounds per hour} = \frac{\text{Grains per Actual Cubic Foot} \times \text{Actual Cubic Foot per Hour}}{\text{7000 Grains per Pound}}$
9	Year Placed in Service (N4): Enter the year in which the FGCE unit was placed in service, in the format YYYY. (TMYEAR)
10	Installed Cost (N6) MDOL: Report the installed cost of FGCE unit (in 1000 dollars). See the General Instructions for Electric Utility Respondents for further information on reporting costs.
11	Manufacturer (A4): Enter the appropriate FGCE manufacturers abbreviation for the collector listed in data field 3 above, from the Register of Data Standards, IDMFEQ.
12	Name Other Manufacturer (A35): If the code "OTHE" is entered in data field 11 above, enter the name of the manufacturer in this data field. Abbreviate only if necessary. (IDNAME)

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R S	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0622	BOILERS SERVED BY FGCE	1 of 1

I. DESCRIPTION

This schedule is used to collect data on the interrelationship of flue-gas cleaning equipment (FGCE) and the boilers (i.e., steam-generators) served by it at electric generating stations.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants having flue-gas cleaning equipment and which have total installed generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Complete, in full, a separate entry (i.e., a separate line, in this case) for each combination of FGCE and boiler served. Thus, for a plant having three units of FGCE, each of which serves three boilers, complete nine entries.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	FGCE ID (A5): Enter the flue-gas cleaning equipment collector identification code. This must be a unique code assigned by the respondent and maintained from schedule to schedule, and from year to year. (IDEQPT)
4 (Key)	Generating Group ID (A5): Enter the unique identification code assigned by the respondent to the steam-electric generating group which is associated with the FGCE unit being described. (IDEQPT)
5	Boiler ID (A5): Enter the unique identification code assigned by the respondent to each boiler which is served by FGCE. Complete in full a separate entry (i.e., separate line, in this case) for each boiler served by FGCE identified in data field 3 above. (IDEQPT)

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R S	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0623	BOILER FGCE EQUIPMENT	1 of 1

I. DESCRIPTION

This schedule is used to collect data on the interrelationship between boilers (i.e., steam-generators) and the associated flue-gas cleaning equipment at electric generating stations.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants having flue-gas cleaning equipment (FGCE) and which have total installed generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Complete, in full, a separate entry (i.e., a separate line, in this case) for each combination of boiler and FGCE. Thus, for a plant having three boilers, each of which is served by three FGCEs, complete nine entries.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Generating Group ID (A5): Enter the unique identification code assigned by the respondent to the steam-electric generating group of which the boiler being described is a member. (IDEQPT)
4 (Key)	Boiler ID (A5): Enter the unique identification code assigned by the respondent to each boiler which is associated with FGCE. Complete, in full, a separate entry (i.e., a separate line in this case) for each associated FGCE collector. (IDEQPT)
5 (Key)	FGCE ID (A5): Enter the flue-gas cleaning equipment collector identification code. This must be a unique code assigned by the respondent and always used when referring to this equipment. (IDEQPT)
6	FGCE Type (A4): Enter the abbreviation for the flue-gas cleaning equipment type, from the Register of Data Standards, TYPGCE.

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DETAILED INSTRUCTIONS:
SCHEDULE 0625 PLANT COOLING FACILITY CHARACTERISTICS

I. DESCRIPTION

This schedule is used to collect data on the design characteristics of steam-electric plant cooling facilities.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants having steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Cooling facilities are defined as cooling towers, cooling ponds, or once-through cooling facilities or any combination of the above which provides cooling water to a unique set of condensers.

D. The costs called for should be reported as the original costs reported on the utility's books of accounts and unitized as prescribed in the Federal Power Commission List of Units of Property effective January 1, 1961. In case certain items are not specifically unitized in the referenced list of property units, the most accurate figure available is required. The costs should include amounts for such items as pumps, piping, canals, ducts, intake and discharge structures, dams and dikes, reservoirs, cooling towers, and appurtenant equipment. The costs of condensers should not be included.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3	Cooling Facility ID (A5): Assign a unique identification code to each cooling facility within the plant. A cooling facility is defined as a once-through, pond, tower or any combination of the above which provides cooling water to a unique set of condensers. Once assigned, this code must always be used in referring to this facility from schedule to schedule and from year to year. (IDEQPT)
4	Indicate Combination Cooling Facility (N1): Enter "1" if this is a combination facility (i.e., a facility made up of more

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DETAILED INSTRUCTIONS:
SCHEDULE 0625 PLANT COOLING FACILITY CHARACTERISTICS

Data Field Number	Instructions
4 (cont'd)	than one of the cooling types defined in the Register of Data Standards, TYCOOL. Two towers or a tower and a pond are two examples of combination facilities. If the facility consists of only one such cooling type, such as a single pond, enter "Ø". (INYCNO)
5	Total Cooling Capability (N11) MW: Enter the total cooling capability of this particular facility. If this is a combination facility, enter the sum of the cooling capability of each once-through, pond or tower.
6	Percentage Year Used in Combination (N3) PCT: If this is a combination facility, enter the percentage of the year the component parts of the facility are used in combination. If not combination, leave blank.
7	OTC Equipment ID (N2): Enter the respondent assigned sequence number, beginning with Ø1, for the once-through cooling equipment being described. This same number must be used when reporting future modification to this set of information and on other schedules supplying related data. On Schedule 0626, this value must be used in data field 4. (IDEQPT)
8	OTC Equipment Type (A3): Enter the appropriate cooling type, such as OTF for once-through, fresh, from the Register of Data Standards, TYCOOL. This value must be input upon Schedule 0626, data field 5.
9	OTC Designed Withdrawal Rate (N4) CFS: Enter design rate of withdrawal at full load, for once-through configurations only.
10	OTC Intake Direction from Plant Center (N3) DEGG: Enter the direction, from the center of the plant (in degrees, clockwise from true North) of the intake location associated with each once-through configuration.
11	OTC Intake Distance from Plant Center (N4) FT: Enter the distance from the center of the plant from the intake location associated with each once-through configuration.
12	OTC Intake Distance from Shore (N3) FT: Enter the distance from the shore of the water body to the intake location associated with each once-through configuration.
13	OTC Average Distance Below Surface (N3) FT: Enter the average distance below water surface of the intake location associated with each once-through configuration.
14	OTC Outfall Direction from Plant Center (N4) DEGG: In degrees from true North, for each once-through configuration.

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DETAILED INSTRUCTIONS:
SCHEDULE 0625 PLANT COOLING FACILITY CHARACTERISTICS

Data Field Number	Instructions
15	OTC Outfall Distance from Plant Center (N3) FT: For each once-through configuration.
16	OTC Outfall Distance from Shore (N4) FT: For each once-through configuration.
17	OTC Average Outfall Distance Below Surface (N2) FT: For each once-through configuration.
18	OTC Installed Structure Cost (N4) MDOL: Report the installed cost for each once-through configuration as explained under General Information, II. D (in 1000's of dollars).
19	Indicate if OTC Diffusers Used (N1): Enter "1" for yes, "0" for no. If yes, reply in data field 20 below. (INYONO)
20	OTC Diffuser Use Explanation (A20): Briefly explain diffuser use. (IDDESC)
21	OTC Equipment Installation Year (N4): Enter the year the facility was installed, in the format YYYY. (INYEAR)
22	Percentage Year OTC Used Independently (N3) PCT: Enter the percentage of the year this OTC facility is used independently for any other cooling facility.
23	Cooling Pond Equipment ID (N2): Enter the respondent assigned sequence number, beginning with 01, for the cooling pond being described in this entry. As indicated for data field 7 above, this value must appear on Schedule 0626, data field 4.
24	Cooling Pond Equipment Type (A3): Enter the cooling pond type, such as CP for cooling pond, from the Register of Data Standards, TYCOOL. This value must also be used on Schedule 0626, data field 5 when reporting source water data on this particular cooling pond.
25	Indicate if Spray Ponds Used (N1): Are spray ponds used? Enter "1" for yes, "0" for no. (INYONO)
26	Pond Total Surface Area (N5) ACRE: Enter surface area of cooling pond facility.
27	Pond Total Volume (N6) ACFT: Enter volume of cooling pond facility.
28	Pond Installation Costs (N6) MDOL: Report the installed cost of cooling pond facility, as explained under General Information, II. D (in 1000's of dollars).

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DETAILED INSTRUCTIONS:
SCHEDULE 0625 PLANT COOLING FACILITY CHARACTERISTICS

Data Field Number	Instructions
29	Pond Installation Year (N4): Enter the year pond was installed, in the format YYYY. (INYEAR)
30	Percentage Year Pond Used Independently (N3) PCT: Enter the percentage of the year that this cooling pond equipment is used independently of any other cooling equipment, i.e., not in combination.
31	Tower Equipment ID (N2): Enter the respondent assigned two-digit sequence number, beginning with 01, for the cooling tower being described in this entry. As indicated for data field 7 and 23 above, this value must be repeated whenever this information is modified. This same value must be specified in data field 4 of Schedule 0626 when reporting source water data for this cooling tower.
32	Tower Equipment Type (A3): Enter the cooling tower type, such as WCT for wet cooling tower, from the Register of Data Standards, TYCOOL. This same value must be input upon Schedule 0626, data field 5.
33	Tower Type Draft (N1): Enter type of draft of cooling tower, "1" for mechanical, or "2" for natural draft. (INETOR)
34	Tower Length (N3) FT: Enter length of cooling tower.
35	Tower Base Diameter (N3) FT: Enter diameter of base of cooling tower.
36	Tower Height (N3) FT: Enter height of cooling tower.
37	Tower Water Cooling Range (N2) DEGF: Enter the water cooling range of cooling tower; that is, the number of degrees the water is cooled within the equipment itself.
38	Tower Installation Costs (N5) MDOL: Enter the installed cost of cooling tower, as explained under General Information, II. D (in 1000's of dollars).
39	Tower Installation Year (N4): Enter year this tower was installed, in the format YYYY. (INYEAR)
40	Percentage of Year Used Independently (N3) PCT: Enter percentage of year this tower is used independently of any other cooling facility.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0626	PLANT COOLING WATER SOURCE DATA	1 of 2

I. DESCRIPTION

This schedule is used to collect data on the sources of steam-electric plant cooling water supply.

II. GENERAL INFORMATION

A. This schedule shall be submitted for all plants operated by an electric utility with a steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Complete a separate entry (data fields 1-14) for each cooling facility and source of water combination. For example, two sources of water and three cooling towers would require five entries.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Cooling Facility ID (A5): Enter the unique identification code assigned by the respondent to each cooling facility as defined in data field 3 of Schedule 0625. (IDEQPT)
4	Cooling Equipment Identification (N2): Enter the cooling equipment identification for once-through, pond, or towers as defined in data fields 7, 23, and 31 of Schedule 0625. (IDEQPT)
5 (Key)	Cooling Equipment Type (A3): Enter the code identifying facility type, from the Register of Data Standards, TYCLCD. This code must correspond to the value defined in data fields 8, 24, and 32 of Schedule 0625.
6 (Key)	Water Source Name (A25): Report the full, proper name of the source of cooling water for the facility identified in data field 3 above. Abbreviate, if absolutely necessary. (IDDESC)
7	Dependable Flow (N9) CFS: Enter the "7-day, 10-year dependable flow" for once-through cooling facilities or cooling ponds only. This refers to the seven-day average low flow

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0626	PLANT COOLING WATER SOURCE DATA	2 of 2

Data Field Number	Instructions
7 (cont'd)	discharge expected to occur not more frequently than once in ten years.
8	Average Flow (N7) CFS: Enter the average flow for once-through facilities or cooling ponds only. If average flow is not available for the subject year, an estimate may be made based on flows of previous years.
9	OTC Discharge Into Another Water Body - Explanation (A40): Enter a brief description of discharge to water bodies other than the original source, for once-through facilities only. (IDDESC)
10	OTC Discharge Other Than Downstream - Explanation (A40): Enter a brief description of discharge other than downstream from the water intake locations of once-through cooling facilities only. (IDDESC)
11	Annual Use (N3) DY: Enter the number of days cooling facility is used during report year.
12	Other Uses of Pond (A40): Enter a brief description of other uses of cooling pond, such as fishing, boating, hiking and camping, residential or industrial development. (IDDESC)
13	Location of Blowdown Discharge (A25): Enter the name of the receiving water body for each cooling tower. (IDDESC)
14	Indicate Licensed Project Jurisdication (N1): If source water or water into which discharge is made is under jurisdiction of a Federal Power Commission licensed project, enter "1"; if not, enter "0". (INYONO)
15	Licensed Project Number (A5): Enter the code for the licensed project, if indicated in data field 13 above, from the Register of Data Standards, IDLPRJ.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0627	PLANT GENERAL WATER USE DATA	1 of 2

I. DESCRIPTION

This schedule is used to collect several general categories of water-quality related data from steam-electric plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Data fields 2-12 and 15-16 refer to specifications set forth in the applicable licenses or permits and not to the actual or design operation of the plant.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Downstream Distance (N5) FT: Enter the distance (in feet) which the mixing zone extends downstream from the point of discharge.
3	Shore Distance (N4) FT: Enter the distance (in feet) which mixing zone extends from the shore.
4	Summer Maximum Temperature - Outfall (N2) DEGF: Enter the summer maximum allowable temperature rise (in degrees Fahrenheit) of cooling water at the outfall to the receiving water body.
5	Summer Maximum Temperature - Mixing (N2) DEGF: Report the summer maximum allowable temperature rise (in degrees Fahrenheit) of cooling water at the limit of the defined mixing zone.
6	Summer Temperature Limit - Outfall (N3) DEGF: Enter the summer maximum allowable temperature (in degrees Fahrenheit) of cooling water at the outfall to the receiving water body.
7	Summer Temperature Limit - Mixing (N2) DEGF: Enter the summer maximum allowable temperature (in degrees Fahrenheit) of cooling water at the limit of the defined mixing zone.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0627	PLANT GENERAL WATER USE DATA	2 of 2

Data Field Number	Instructions
8	Winter Maximum Temperature - Outfall (N2) DEGF: Enter the winter maximum allowable temperature rise (in degrees Fahrenheit) of cooling water at the outfall to the receiving water body.
9	Winter Maximum Temperature - Mixing (N2) DEGF: Enter the winter maximum allowable temperature rise (in degrees Fahrenheit) of cooling water at the outfall to the receiving water body.
10	Winter Temperature Limit - Outfall (N3) DEGF: Report the winter maximum allowable temperature (in degrees Fahrenheit) of cooling water at the outfall to the receiving water body.
11	Winter Temperature Limit - Mixing (N2) DEGF: Enter the winter maximum allowable temperature (in degrees Fahrenheit) of cooling water at the limit of the defined mixing zone.
12	Frequency of Monitoring (A1): Enter the frequency of temperature monitoring of cooling water effluent. Enter "C" for continuously, "H" for hourly, "D" for daily, or "O" for other. (TYFREQ)
13	Licensed Project Water Use Indicator (A1): If source water or water into which discharge is made is under jurisdiction of Federal Power Commission Licensed Project, enter "1"; if not, enter "0". (INYOHO)
14	Licensed Project Number (A5): Enter the code for the licensed project, if indicated in data field 13 above, from the Register of Data Standards, IDLPRJ.
15 (Key)	License Authority Type (N1): Enter the type of authority issuing licenses or permits for water use, from the Register of Data Standards, TYOWRA. If more than one authority is involved, enter the type in successive licensing authority type fields.
16	License Authority Description (A25): For each licensing authority type listed in data field 15 above, enter the name of the authority in the adjacent data field 16. (IDDESC)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0629	PLANT SEWAGE EFFLUENT TREATMENT DESIGN DATA	1 of 2

I. DESCRIPTION

This schedule will collect information on treatment and disposal of plant sewage effluent by steam-electric plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities with steam-electric generating plants with a capacity of 25 megawatts or greater during the subject year. Note that data fields 6-11 are intended to collect the designed effluent treatment parameters of the system.

B. Respondents shall complete all data fields on this schedule annually.

C. If respondents have more than one sewage facility, data for each facility would be reported in separate entry.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Disposal Type (A2): Report the type of disposal used for plant sewage: "PS" for public sewer, "ST" for septic tank, "SW" for surface water body, or "OT" for other type. (TYSWDS)
3	Other Sewage Disposal Explanation (A20): If "OT" is entered in data field 2 above, enter a brief description of the other plant sewage disposal type. Abbreviate if necessary. (IDDESC)
4	Water Body Receiving Discharge (A20): Report both the name and the type of water body receiving plant sewage disposal discharge (e.g., enter "Mississippi River", not "Mississippi" or "River"). (IDDESC)
5 (Key)	Indicator Time of Observation Before/After (N1): This is a preprinted data field. "1" indicates data obtained before treatment; "2" indicates data obtained after treatment. (INETOR)
6	Basic Oxygen Demand (N2) PPM: Enter the basic oxygen demand (in parts per million).
7	pH (N2) pH: Enter pH reading.
8	Phosphates (N3) PPM: Enter phosphate value (in parts per million).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0629	PLANT SEWAGE EFFLUENT TREATMENT DESIGN DATA	2 of 2

Data Field Number	Instructions
9	Name Other Quality (A20): Enter a brief description name of any other pertinent method of evaluating treatment of plant sewage effluent. (IDDESC)
10	Other Quality Amount (N3) NO: Enter the quantitative measurement of value scale associated with data field 9 above.
11	Other Quality Units (A5): Enter the unit of measurement associated with data fields 9 and 10 above. (TYUNMS)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0628	PLANT WATER TREATMENT - SETTLING POND AND DISCHARGE DATA	1 of 2

I. DESCRIPTION

This schedule is used to collect data on discharges of ash and boiler water blowdown to natural water bodies by steam-electric plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. For boiler water blowdown which does not actually go to a settling pond, but goes directly into a natural water body, complete data fields 8, 9, 10, 11, and 12 and enter zeros into data field 2, Pond Number.

D. Report only the final discharge pond or ponds which discharge into natural water bodies. Do not report on ponds which discharge into other ponds.

E. Do not report discharge between ponds.

F. If the pond discharges to a public sewer or if the pond dissipates by seepage into the ground or by evaporation, do not complete data fields 8, 9, 10, 11, and 12 but enter appropriate codes into data field 5, Method of Discharge.

G. "Ash Settling" ponds include both bottom ash and flyash ponds.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Pond Number (N2): Enter a two-digit unique identification number assigned by the respondent, to each separate settling pond being reported for the plant identified in data field 1 above. Enter zeros when reporting discharges where no settling pond is involved. (IDEQPT)
3	Pond Type (N1): Enter one of the following codes when data field 2 above is non-zero: (INSTOR) 1 = Boiler Water Blowdown Pond 2 = Ash Settling Pond (including bottom and flyash) 3 = Combination of 1 and 2 above If data field 2 above is zero, leave this data field blank.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0628	PLANT WATER TREATMENT - SETTLING POND AND DISCHARGE DATA	2 of 2

Data Field Number	Instructions
4 (Key)	Discharge Identification (N1): Enter a unique single digit numeric code, 1 through 9, assigned by the respondent. This code is used to identify each discharge being reported. This is not an event oriented report and if conditions vary for a given discharge, worst conditions are to be reported. (NNCAHL)
5	Method of Discharge (A2): Enter one of the following codes for each discharge identified in data field 4 above: (TYSWDS) SW = Natural surface body of water SG = Seepage into ground PS = Public sewer EV = Evaporation RC = Recycled back into water treatment system
6	Evacuation Procedure (A20): Describe briefly the evacuation procedure or cleaning method for each pond. (IDDESC)
7	Cleaning Frequency (N3) NO/YR: Enter the number of times pond is cleaned annually.
8	Estimate pH (N2) pH: Enter pH value for water as it is discharged from the pond and not as it stands in the pond.
9	Suspended Solids (N3) PPM: Enter the suspended solids value (in parts per million) for water as it is discharged from the pond and not as it stands in the pond.
10	Surface Area (N8) ACRE: Enter the pond surface area (in acres).
11	Discharge Volume (N9) CFY: Enter the discharge volume (in cubic feet per year). This is the volume discharged to a water body whether or not a settling pond was actually used.
12	Water Body Receiving Discharge (A20): Enter the name of the water body and its type as in data field 11 below. (IDDESC)
13	Source of Sluicing and Cleaning Water (A30): Complete this data field only for ash settling ponds. Give the name of the water body as well as its type (e.g., "Mississippi River" rather than "River of Mississippi"). Abbreviate if necessary. (IDDESC)
14	Amount of Ash Treated (N7) TON: Enter (in tons per year) the quantity of ash treated or handled during the year. Include both flyash and bottom ash.

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RIS FEDERAL POWER COMMISSION
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DETAILED INSTRUCTIONS:
SCHEDULE 0630 COMBINED-CYCLE PLANT DATA

1 of 2

I. DESCRIPTION

This schedule is used to collect data on the configuration of gas-turbine and steam-electric units operating in combined-cycle.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants having combined-cycle installed steam-electric generating capacity of 25 megawatts or greater and gas-turbines of 10 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. On the lower half of this schedule, please enter a brief description of the operation of the combined cycle plant. Include a schematic of the plant configuration. Submit the schematic as an attachment.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Combined Cycle Generating Group ID (A5): Enter the unique identification code initially assigned by the respondent to this particular combined-cycle generating group. This code must always be used when referring to this equipment from schedule to schedule and from year to year. (IDEQPT)
4	Combined Cycle Gas-Turbine Generating Group ID (A5): Enter the unique identification code assigned by the respondent to each group of gas-turbines operating in combined-cycle at the plant being described. If more than one such group exists at the plant, complete a separate line on this schedule for each group. Note: The identification codes assigned in this data field must correspond to those assigned to the Gas-Turbine Generating Group in Schedule 0611, data field 3 and Schedule 0614, data field 5. (IDEQPT)
5	Combined Cycle Steam-Electric Generating Group ID (A5): Enter the unique identification code assigned by the respondent to each group of steam-electric generating units operating in combined-cycle at the plant being described. If more than

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DETAILED INSTRUCTIONS:
SCHEDULE 0630 COMBINED-CYCLE PLANT DATA

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Data Field Number	Instructions
5 (cont'd)	one such group exists at the plant, complete a separate line on this schedule for each group. Note: The identification codes assigned in this data field must correspond to those assigned to the Steam-Electric Generating Group in Schedule 0614, data field 3. (IDEQPT)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0631	STEAM-ELECTRIC PLANT CAPABILITY DATA	1 of 2

I. DESCRIPTION

This schedule is designed to collect data on the net capability of steam-electric plants under operating conditions as listed in the detailed instructions below.

II. GENERAL INSTRUCTIONS

A. This schedule will be submitted by electric utilities for all plants with steam-electric installed capacity of 25 megawatts or greater during the subject year (including nuclear plants).

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Data fields 7 and 8 refer to net plant capability (as defined in General Instructions for Electric Utility Respondents) based on power factor conditions normally to be expected at time of system peak.

D. The preprinted values of Condition Code, data field 3, should be interpreted as follows:

1 With largest generating unit out of service
2 With largest boiler unit out
3 With all equipment in service

Enter data, in data field 4, appropriate to the Condition Code.

On each occurrence of data fields 1-4 there will be three occurrences of data fields 5-7. The preprinted values of Duration, data field 5, should be interpreted as follows:

1 One-hour duration
2 Two-hour duration
3 Continuous duration

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0631	STEAM-ELECTRIC PLANT CAPABILITY DATA	2 of 2

Data Field Number	Instructions
3 (Key)	Condition Code (N1): This is a preprinted data field. See General Instruction II D. (TYSTON)
4	Power Factor (N1.2) NO: Report the power factor for each type of condition (specified in data field 3 above) in per unit.
5	Duration (N1): This is a preprinted data field. See General Instruction II D. (TYLDDR)
6	Capability - Not Limited (N5.2) MW: Report the net plant capability under the condition and duration specified in data fields 3 and 6. "Capability" in this case, refers to plant operation when not limited by condenser water or ambient temperature.
7	Capability - Limited (N5.2) MW: Report the net plant capability under the condition and duration specified in data field 3 and 6 above. "Capability" in this case refers to plant operation during periods when limited by condenser water or ambient temperature.

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R S	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0632	SMALL PLANT DESIGN DATA AND COSTS	1 of 2

I. DESCRIPTION

This schedule is designed to collect general design data on small electric generating plants as defined in General Information, II-A below.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all small electric generating plants as follows: Steam-electric generating types with less than 25 megawatts of installed generating capacity (maximum nameplate rating) during the subject year; hydro-electric, pumped storage, internal-combustion, and gas-turbine generating types with less than 10 megawatts of installed generating capacity (maximum nameplate rating) during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and the changed values, additions, and deletions.

C. If any plant is equipped with combinations of steam, hydroelectric, pumped-storage, internal-combustion or combustion turbine equipment, report each generating type separately using the same plant code in data field 1.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter one of the abbreviations for generating type as follows: (TYPLPW) ST = Steam-Electric HY = Hydroelectric (conventional) HP = Hydroelectric (pumped storage) GT = Gas-Turbine IC = Internal Combustion
3	Year Originally Constructed (N4): Enter the year in which plant construction began, in the format YYYY. (TMYEAR)
4	Year Last Unit Installed (N4): Enter the year in which last unit was installed, in the format YYYY. (TMYEAR)
5	Nameplate Rating (N5.2) MVA: Enter the nameplate rating (in MVA) of the plant.

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DETAILED INSTRUCTIONS: SCHEDULE 0632	SMALL PLANT DESIGN DATA AND COSTS	2 of 2

Data Field Number	Instructions
6	Ultimate Generating Capacity (N5.2) MW: Report the planned ultimate generating capacity (in megawatts) of the plant.
7	Full Load (N6) BTU/KWH: Enter the fuel consumption (in BTU per kilowatt-hour) of fuel burning plants when operating under full load conditions.
8	Hydroelectric Drainage (N5) SQMI: Report the drainage area (in square miles) of hydroelectric installations.
9	Hydroelectric Pondage (N4) ACFT: Report the usable pondage or storage (in acre-ft) at the site of the hydroelectric installation.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0633	SMALL PLANT GENERATING GROUP DESIGN DATA	1 of 2

I. DESCRIPTION

This schedule is used to collect data on the design parameters of generating units installed at small electric generating plants as defined in II. A. below.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all small plants with installed generating capacity (maximum nameplate rating) as follows: Steam-electric, less than 25 megawatts; hydroelectric (including pumped storage); internal-combustion and gas-turbine with less than 10 megawatts during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter one of the abbreviations for generating type as follows: (TYPLPW) ST = Steam-Electric HY = Hydroelectric (conventional) HP = Hydroelectric (pumped storage) GT = Gas-Turbine IC = Internal Combustion
3 (Key)	Small Plant Generating Group ID (A5): Enter the unique identification code, assigned by the respondent to each generating group. Complete one entry for each generating group composed of identical units. (As defined in Part III of the General Instructions for Electric Utility Respondents.) (IDEQPT)
4	First Generating Unit ID (A5): Enter the respondent's commonly used designation for the first generating unit in the group defined in data field 3 above. (IDDESC)
5	Number of Units (N2) NO: For each entry (i.e., generating group) enter the number of identical units making up the group.
6	Generator Unit Nameplate Rating (N5.2) MVA: Enter the maximum nameplate capacity rating of the typical (i.e., one of the identical units) unit in the generating group.

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DETAILED INSTRUCTIONS: SCHEDULE 0633	SMALL PLANT GENERATING GROUP DESIGN DATA	2 of 2

Data Field Number	Instructions
7	Nameplate Rating (N5.2) MW: Enter the maximum nameplate capacity rating of the typical (i.e., one of the identical units) unit in the generating group.
8	Power Factor (N1.2) NO: Enter the nameplate rating power factor of the typical (i.e., one of the identical units) unit in the generating group (in per unit).
9	Operating Speed (N4) RPM: Enter the operating speed (in RPM) of the typical unit in the group.
10	Voltage (N3.2) V: Enter the generator voltage of the typical unit in the group.
11	Phase (N1) NO: Enter the phase of the generator, i.e., enter either "1", "2", or "3".
12	Frequency (N2) HZ: Enter the frequency (generator) of the typical unit in the group. For example, "60" Hertz.
13	Year Unit Installed (N4): Enter the year in which the last unit of the group was installed, in the format YYYY. (TMYEAR)
14	Indicator Unit New (N1): Were the units new when installed? Enter "1" for yes; "0" for no. (INYONO)
15	Year Manufactured (N4): If the answer to data field 14 above is "no", enter the year in which the units were manufactured, in the format YYYY. (TMYEAR)
16	Year Rebuilt (N4): If the answer to data field 14 above is "no", enter the year in which the units were rebuilt, in the format YYYY. (TMYEAR)
17	Waterwheel Design Head (N6) FT: Enter the design head (in feet) of the waterwheel associated with the typical unit, if hydroelectric.
18	Efficiency for Hydroelectric (N3.2) CFS/KWH: Enter the efficiency factor of the typical unit, if hydroelectric.
19 (Key)	Fuel Type (N2): For each fuel type burned enter the code, from the Register of Data Standards, TYPUEL. Report only the three major fuels burned, listing primary fuel first, if multiple types are used. Do not include fuels for flame stabilization and start up.
20	Heat Rate (N6) BTU/KWH: For each fuel type listed, enter the full load fuel consumption (in BTU per kilowatt hour).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0634	ANNUAL PLANT CAPACITY - OUTPUT AND FUEL DATA	1 of 3

I. DESCRIPTION

This schedule is used to collect data on installed capacity, generation and fuel usage for all electric generating plants, including nuclear and hydroelectric as well as fossil fuel-fired plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all electric generating plants whose generation is included in systems designated as Type I.

B. Respondents shall complete all data fields on this schedule annually.

C. If any plant is equipped with combinations of hydro, pumped storage, steam-electric internal combustion, or gas-turbine units, then each generating type should be reported separately using the same plant code in data field 1. However, steam-electric and gas-turbine units operating in combined cycle should be reported combined.

D. The respondent should complete either data field 7 or data field 8 depending upon the situation of the plant being reported.

E. In reporting data fields 14-16, all fuels, including those used for minor uses such as flame stabilization should be considered.

F. For jointly owned units, report only the respondents share of total capacity, gross generation and net generation. All other owners must report the same way.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter one of the abbreviations for type of generation from the following list: Note: See General Information, II-C. (TYPLFW) HY = Hydroelectric (conventional) ST = Steam-Electric HP = Hydroelectric (pumped storage) GT = Gas-Turbine IC = Internal Combustion CC = Combined Cycle
3	Nameplate Rating (N5.2) MW: Enter the total installed generating capacity for each type of generation (as defined in

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DETAILED INSTRUCTIONS: SCHEDULE 0634	ANNUAL PLANT CAPACITY - OUTPUT AND FUEL DATA	2 of 3

Data Field Number	Instructions
3 (cont'd)	data field 2 above) as of the end of the subject year. Use maximum nameplate ratings. Include both main and auxiliary units.
4	Capacity Main Units (4.1) MW: Enter the total installed generating capacity of main generating units only, for each type of generation (as defined in data field 2 above) as of the end of the subject year. Use maximum nameplate ratings.
5	Capacity Auxiliary Units (N4.1) MW: Enter the total installed generating capacity of auxiliary or house generating units only, for each type of generation (as defined in data field 3 above) as of the end of the subject year. Use maximum nameplate ratings.
6	Gross Generation (N11) MWH: Enter the total annual output of all main generating units and all auxiliary generating units for each type of generation (as defined in data field 2 above) for the subject year.
7	Number of Employees (N4) NO: Enter the total number of employees for each type of generation at year end (as defined in data field 2 above). See also data field 8 below.
8	Average Annual Number of Employees (N4) NO: If a group of employees attend more than one type of generation, enter the approximate average number of employees assignable to each type of generation (as defined in data field 2 above) for the year.
9	MWH of Plant Use (N7) MWH: Enter the total amount of the energy, reported in data field 6 above, consumed during the subject year for plant light and power and for plant auxiliaries. Energy for synchronous condenser operation in plant may also be included in data field 9 if it is treated as "plant use" in respondent's books. Do not include energy used for pumping in pumped storage plants (see data field 10 below).
10	Pumping Energy (N5.1) MWH: Enter amount of energy used for pumping during the subject year, for pumped storage plants only.
11	Net Generation (N10) MWH: Enter net generation for each type of generation (as defined in data field 2 above) for the subject year. This amount should be the difference between gross generation (data field 6 above) and pumping energy (data field 10 above).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0634	ANNUAL PLANT CAPACITY - OUTPUT AND FUEL DATA	3 of 3

Data Field Number	Instructions
12	Maximum Net Peak Demand (N10) MW: Enter the maximum net 60-minute peak demand on plant during subject year.
13	Hours to Load (N4) HR: Enter the number of hours plant was connected to load during the subject year.
14	Composite Average BTU - All Fuels (N7) BTU: Report for subject year in BTU.
15	Composite Fuel Cost Per KWH (N4.2) DOL/KWH: Enter the composite cost per KWH of all fuels burned during the subject year.
16	Heat Rate Efficiency (N5) BTU/KWH: Enter the composite heat rate (in BTU/KWH) for thermal plants for the subject year; for hydroelectric plants, leave blank.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0635	MONTHLY UTILITY PLANT DATA	1 of 2

I. DESCRIPTION

This schedule is used to collect data on installed capacity, net generation, fossil fuel consumption and stocks from all electric utility power plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by all electric utility power plants.

B. Respondents shall complete data fields 1-6 on this schedule monthly and complete data fields 7 and 8 when fuel type entered in data field 4 is gas, oil or coal.

C. One logical entry (i.e., one line) must be completed for each fuel type within the prime mover type. For example, a steam-electric plant using coal, oil and gas for generation during a given month must complete three separate logical entries on this schedule.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter one of the abbreviations for prime mover generator type, as follows: (TYPLPW) HY = Hydroelectric (conventional) ST = Steam-Electric HP = Hydroelectric (pumped storage) GT = Gas Turbine IC = Internal Combustion CS = Steam, Combined Cycle CG = Gas Turbine, Combined Cycle
3	Plant Status (A1): Enter the abbreviation for plant status, from the Register of Data Standards, TYSTOS.

NOTE: For data fields 4-8: Report fuel types in data field 4 and related data in data fields 5-8. If the respondent is unable to break down any data by fuel type, leave the data field blank for that particular fuel type. After reporting data for all data fields for each prime mover, report total plant data for data fields 5 and 6, entering code "00" in data field 4.

4 (Key)	Fuel Type (N2): Enter the type of fuel associated with the prime mover generator type entered in data field 2 above, from the Register of Data Standards, TYFUEL.

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DETAILED INSTRUCTIONS: SCHEDULE 0635	MONTHLY UTILITY PLANT DATA	2 of 2

Data Field Number	Instructions
5	Installed Generating Capacity (N7.1) MW: Where possible, enter the installed generating capacity (in megawatts) for each fuel type within each prime mover type. Enter capacity as of the end of the subject month. The capacity should represent the total of the manufacturer's generator nameplate ratings at the end of the month, exclusive of auxiliary or house units. Where a generator nameplate shows two or more ratings, use the maximum rating.
6	Net Generation (N10.1) MWH: Enter the net generation (i.e., gross less use by power plant for auxiliary equipment) for each prime mover and fuel type combination. To report negative quantities refer to General Instructions, Level I.
7	Quantity Fuel Consumed for Generation (N7.1) NO: Enter the actual or estimated amount of fuel used for each prime mover and fuel type combination during the subject month. Enter only the quantity of fuel used in generating electric energy, including fuel for maintenance of standby service. Report in the following units: coal, 1000 short tons; fuel oil, 1000 42-gallon barrels; gas, 1000 Mcf.
8	Fuel Stocks - End of Month (N8.1) NO: Enter coal and fuel oil (in the same units of measure as data field 7 above) held for electric energy generation, including regular stocks at the plant and in cars or barges at the plant site. Amounts held in central storage yards should also be included and footnoted.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0636	MONTHLY PLANT FUEL COST AND QUALITY DATA	1 of 4

I. DESCRIPTION

This schedule is used to collect data on the cost and quality of fossil fuels delivered at electric generating plants on a monthly basis.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants which have a total combined steam-electric, combustion turbine and internal combustion engine powered generating capacity of 25 megawatts or greater during the reporting month.

B. Respondents shall complete all the data fields on this schedule monthly.

C. Units of fuel to be reported separately, in each logical entry, for the month are total quantities representing individual laboratory analysis, combination of samples, or any other basis used for determining payment for each fuel supplier for the total receipts for the month.

D. Do not report negative quantities of zero values to reflect inventory adjustments, etc. Use footnotes to explain any such descriptions.

E. Notice that one logical entry can contain data for one type of fuel only, therefore some of the data fields would always remain blank (i.e., if the data is for "coal" data fields 23-28 will be blank).

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2	Month Code (N2): Enter the two-digit numeric code for month (i.e., January 01, October 10, etc.) as specified in the Register of Data Standards, TMMOYR.
3	Purchaser Entry ID (N3): Enter sequential number, assigned by the respondent to each fuel purchase (i.e., purchase one would be 001, purchase ten would be 010). (NRCADL)
4	Generating Type (A2): Enter one of the abbreviations for "type of generation", from the following list: (TYPLPW) ST - Steam Turbine GT - Gas-Turbine IC - Internal Combustion
5	Purchase Type (A2): Enter the abbreviation for type of purchase from the following list. Note: The purchase type for gas would be different than coal and oil. (TYPLPR)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0636	MONTHLY PLANT FUEL COST AND QUALITY DATA	2 of 4

Data Field Number	Instructions
5 (cont'd)	Coal & Oil Purchases, use only the following codes: S - for "spot" purchase; NC - for new or newly renegotiated contract purchase under which deliveries were first made during the reporting month; CE - for contract purchases under which the price is changed from the price of the previous delivery under an existing contract due to provisions for automatic price adjustment; or O - for all other contract purchases. For gas purchases, use only the following codes: I - for "interruptible", F - for "firm"; and OP - for "off peak".
6	Length of Original Contract (N2) YR: Enter the total number of years during which fuel was to be delivered under the existing contract.
7	Time Until Expiration (N2) YR: Enter the number of years remaining before the existing contract expires. Round to the nearest year (i.e., if the contract duration involves seven months or more, round up to the higher year; for less than seven months, round down to the lower year).
8	Mode of Transportation (A2): Enter the major mode of transportation as specified in the Register of Data Standards, TYTRAN.
9	Generic Fuel Type (N2): Enter fuel type code for coal, oil and gas as provided, from the Register of Data Standards, TYFUEL.
10	Specific Fuel Type (N2): Enter the code for type of fuel (from the Register of Data Standards, TYFUEL) within the Generic Fuel Type specified in data field 9 above (i.e., anthracite which is a type of coal -- the code for anthracite will be reported in this data field, as in data field 9 above, since the Generic Fuel Type is coal).
11	Quantity (N7) NO: Specify quantities in units of a thousand (use thousands of tons for coal, thousands of barrels for oil and other liquid fuels and thousands of Mcf for gas). For example, if 213,000 tons of coal is delivered during the reporting month, report 213. Show separate quantities for each class of fuel. To derive the quantity, group all fuels

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0636	MONTHLY PLANT FUEL COST AND QUALITY DATA	3 of 4

Data Field Number	Instructions
11 (cont'd)	received within the month from the supplier for which the price was based upon a given or related set of laboratory analysis. For quantities of fuel received from a given supplier during the month for which no laboratory analysis is made, report on the basis of the last previous laboratory analysis upon which price paid was determined for that supplier or on the basis of contract specifications or estimates, and specify in a footnote the basis used.
12	BTU Content (N6) BTU: List the average BTU content of each fuel in terms of BTU per pound of coal, BTU per gallon for oil (and other liquid products), or BTU per cubic foot for gas.
13	Sulfur Content (N2.2) PCT: Show sulfur content of each unit-of-fuel in terms of per cent sulfur by weight. Show accurate to nearest 0.01 per cent.
14	Ash Content (N2.1) PCT: Show ash content of each unit-of-fuel in terms of per cent sulfur by weight. Show accurate to nearest 0.1 per cent.
15	Purchase Cost (N4.1) DOL: Enter the cost in cents per million BTU FOB Plant. Show accurate to the nearest 0.1 cent.
16	Coal Type (A1): Enter the abbreviation from the following list for the type of coal mine: (TYMINE) S - Surface Mined U - Underground Mined C - Underground Portion Greater than Surface Portion F - Surface Portion Greater than Underground Portion
17	BOM District Number (N2): Enter the code for BOM coal producing district number from which the coal originated, from the Register of Data Standards, IDCLDS.
18	Coal State of Origin (A2): Enter the abbreviation for state in which the coal was produced, from the Register of Data Standards, IDSTAT.
19	Mine County Code (N3): Enter the code for county from wh coal originated, from the Register of Data Standards, IDC.
20	Indicator Coal Washed (N1): Enter "1" for yes if the coal washed before consumption; if not, enter "0". (INYONO)
21	Coal Company Name (A35): Enter the name of the coal compan that mined the coal, abbreviate if necessary. (IDNAME)
22	Coal Mine Name (A26): Enter the name of coal mine, ab ev if necessary. (IDNAME)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0636	MONTHLY PLANT FUEL COST AND QUALITY DATA	4 of 4

Data Field Number	Instructions
23	Oil Supplier (A35): Enter the name of the oil supplier, abbreviate if necessary. (IDOLSP)
24	Oil Refinery Name or Port of Entry (A35): Enter the name of the oil refinery or port of entry, abbreviate if necessary. (IDNAME)
25	Gas Pipeline Supplier (A35): Enter the name of the gas pipeline supplier, abbreviate if necessary. (IDNESP)
26	LNG Port of Entry (A35): Enter the port of entry if the fuel is LNG, abbreviate if necessary. (IDNAME)
27	Indicator Interstate (N1): Enter "1" if the price of the purchased gas is regulated by the Federal Power Commission; if not, enter "0". (INYONO)
28	Gas Producing State (A2): Enter the abbreviation for the state in which purchased gas is produced, from the Register of Data Standards, IDSTAT.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0637	ANNUAL LARGE PLANT FUEL DATA	1 of 2

I. DESCRIPTION

This schedule is used to collect data on the cost, quality, and quantity of each type of fuel burned at fossil fuel-fired and nuclear generating facilities.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all steam-electric, including nuclear, internal-combustion and gas-turbine as follows: Steam-electric (including nuclear), generation of 25 megawatts or greater; internal-combustion and gas-turbine facilities, 10 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule annually.

C. Complete one entry (data fields 1-12) for each type of fuel burned at a plant during the subject year.

D. Quantities of fuel burned (data field 6) and average cost per unit of fuel burned (data field 9) should be consistent with charges to expense accounts 501.00 and 547.00, as reflected in data field 10.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter the type of generation associated with each type of fuel reported, as follows: (TYPLPW) ST = Steam-Electric IC = Internal Combustion GT = Gas-Turbine
3 (Key)	Fuel Type (N2): Enter the code for each type of fuel burned, from the Register of Data Standards, TYFUEL.
4	Fuel Use Indicator (N1): Code for nuclear fuel only: "1" for initial load; or "2" for supplementary load. (INNTOR)
5	Fuel Unit (A4): Enter "TONS" for coal, "MCF" for gas, "BBLS" for oil, or "KG" (kilograms) for nuclear. These units of measure are standard and should not be altered when reporting fuel. (TYUNMS)

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DETAILED INSTRUCTIONS: SCHEDULE 0637	ANNUAL LARGE PLANT FUEL DATA	2 of 2

Data Field Number	Instructions
6	Quantity Fuel Burned (N9) NO: Enter the quantity of each type of fuel burned during the subject year. As specified in data field 5 above, report all coal quantities in tons (2,000 pounds), all fuel oils in barrels (42 gallons), gas in MCF (million cubic feet), and nuclear fuel in kilograms.
7	Average BTU Per Unit (N7) BTU: Enter the average BTU content of each type of fuel listed in data field 3 above. Report coal in BTU per pound; all fuel oils in BTU per gallon; gas in BTU per cubic foot; and nuclear fuel in BTU per gram.
8	Average Cost Per Unit Delivered (N6.2) DOL: Enter the average cost (in dollars and cents per ton, barrel, MCF, or kilogram) of each type of fuel as delivered F.O.B. plant during the subject year.
9	Average Cost Per Unit Burned (N6.2) DOL: Enter the average cost (in dollars and cents per ton, barrel, MCF, or kilogram) of each type of fuel as burned at plant during the subject year.
10	Cost Per Million BTU (N3.2) DOL/MBT: Enter the cost (in dollars and cents per million BTU) of each type of fuel as burned at plant during the subject year.
11	Fuel Cost Per KWH Generated (N2.2) MIL/KWH: Enter the cost (in mills per kilowatt hour) of each type of fuel per kilowatt hour of energy generated.
12	BTU Per KWH Generated (N5) BTU/KWH: Enter the average heat rate (in BTU per KWH) of each type of fuel burned at plant during the subject year.

RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0638	INTERNAL-COMBUSTION AND GAS-TURBINE PLANT COSTS AND EXPENSES	1 of 2

I. DESCRIPTION

This schedule is designed to collect data on costs and expenses associated with internal-combustion and gas-turbine electric generating plants.

II. GENERAL INFORMATION

A. This schedule will be submitted by electric utilities for all plants with internal-combustion or gas-turbine generating capacity of 10 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule annually.

C. Gas-turbine units functioning in combined cycle with conventional steam units should be reported on Schedule 0643, Steam Electric Costs and Expenses.

III. DETAILED INSTRUCTIONS

The following data field y-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter "IC" for internal-combustion engines; or "GT" for gas-turbines. If a plant is equipped with both types of units, complete a set of data fields for each type of generation. (TYPLPW)
3	Land and Land Rights Costs (N9) DOL: Enter the amount (in dollars).
4	Structures and Improvements Cost (N9) DOL: Enter the amount (in dollars).
5	Equipment Cost (N9) DOL: Enter the amount (in dollars).
6	Total Plant Cost (N10) DOL: Enter the amount (in dollars) for the total plant cost.
7	Cost Per KW Installed Capacity (N5.2) DOL/KW: Report the cost per kilowatt of installed capacity (in dollars and cents).
8	Operation Expenses - Supervision and Engineering (N8) DOL: Enter all supervision and engineering expenses (in dollars) incurred in the operation of the plant.
9	Fuel Expenses (N10) DOL: Enter plant production expenses (in dollars) for fuel.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0638	INTERNAL-COMBUSTION AND GAS-TURBINE PLANT COSTS AND EXPENSES	2 of 2

Data Field Number	Instructions
10	General Expenses (N8) DOL: Enter any production expenses (in dollars) not otherwise classified on this schedule.
11	Electric Expenses (N8) DOL: Report operating expenses (in dollars) as detailed in Federal Power Commission Accounts 548.00 and 549.00.
12	Miscellaneous Power Expenses (N8) DOL: Enter all miscellaneous power expenses (in dollars) associated with plant productions.
13	Rent Expenses (N8) DOL: Enter the total of all expenses for rent (in dollars) associated with plant production.
14	Maintenance Expenses - Supervision and Engineering (N8) DOL: Report all maintenance expenses (in dollars) associated with supervision and engineering.
15	Maintenance Expenses - Structures (N8) DOL: Enter all expenses (in dollars) associated with maintenance of structures.
16	Maintenance Expenses - Electric Plant (N8) DOL: Enter all expenses (in dollars) associated with maintenance of the electric plant.
17	Maintenance Miscellaneous Power Expenses (N8) DOL: Enter the maintenance miscellaneous power expenses (in dollars).
18	Total Production Expenses (N10) DOL: Enter the total amount (in dollars) for all production expenses.
19	Expenses Per Net KWH (N5.2) MIL/KWH: Enter expenses (in mills) per net kilowatt hour.

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DETAILED INSTRUCTIONS:
SCHEDULE 0641 HYDROELECTRIC PLANT COSTS AND EXPENSES

1 of 2

I. DESCRIPTION

This schedule is used to collect data on costs and expenses associated with hydro-electric plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with hydro-electric generating capacity of 10 megawatts or greater.

B. Respondents shall complete all data fields on this schedule annually.

C. The items under cost of plant, data fields 3-9, represent accounts or combinations of accounts prescribed by the Uniform System of Accounts. Production expenses do not include Purchased Power, System Control and Load Dispatching, and Other Expenses classified as "Other Power Supply Expenses".

D. If any plant is equipped with combinations of hydro-electric and steam, internal combustion, or gas-turbine equipment, each type should be reported as a separate plant on the appropriate cost and expense schedule.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Preprinted "HY" indicating hydro-electric generation. For internal Federal Power Commission processing only. (TYPLPW)
3 (Key)	Land and Land Right Cost (N9) DOL: Enter the amount (in dollars).
4	Structures and Improvements Cost (N9) DOL: Enter the plant cost of this item (in dollars).
5	Reservoirs, Dams, and Waterways Cost (N9) DOL: Enter the plant cost of these items (in dollars).
6	Equipment Cost (N9) DOL: Enter the plant cost of equipment (in dollars).
7	Roads, Railroads, and Bridges Cost (N8) DOL: Enter the total plant cost of these items (in dollars).
8	Total Plant Cost (N10) DOL: Enter the amount of the total plant cost (in dollars).

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DETAILED INSTRUCTIONS:
SCHEDULE 0641 HYDROELECTRIC PLANT COSTS AND EXPENSES

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Data Field Number	Instructions
9	Cost Per KW Installed Capacity (N6.2) DOL/KW: Report the cost per kilowatt of installed capacity (in dollars and cents).
10	Operation Expenses - Supervision and Engineering (N8) DOL: Enter all supervision and engineering expenses incurred in the operation of the plant (in dollars).
11	Water for Power Expense (N8) DOL: Report the amount of all water for power expenses (in dollars).
12	Hydraulic Expenses (N8) DOL: Enter the amount for hydraulic expenses (in dollars).
13	Electric Expenses (N8) DOL: Report the total (in dollars).
14	Miscellaneous Hydraulic Power Generation Expenses (N8) DOL: Enter the total of all miscellaneous hydraulic power generation expenses (in dollars).
15	Rent Expenses (N8) DOL: Enter the total of all expenses for rents associated with plant production (in dollars).
16	Maintenance Expenses - Supervision and Engineering (N8) DOL: Enter the total of all supervision and engineering expenses incurred in the maintenance of the plant (in dollars).
17	Maintenance Expenses - Structure (N8) DOL: Enter the total of all expenses associated with the maintenance of structures (in dollars).
18	Maintenance Expense - Reservoirs, Dams, and Waterways (N8) DOL: Enter the total of all expenses incurred in the maintenance of reservoirs, dams and waterways (in dollars).
19	Maintenance Expense - Electric Plant (N8) DOL: Report the total for the maintenance of electric plant (in dollars).
20	Maintenance Expense - Miscellaneous Hydraulic Plant (N8) DOL: Report the total incurred in the maintenance of miscellaneous hydraulic plant.
21	Joint Multiple Use Operating Expenses (N5) DOL: Enter the joint or multiple use operating expenses (in dollars).
22	Joint Multiple Use Maintenance Expenses (N5) DOL: Enter the joint or multiple use maintenance expenses (in dollars).
23	Total Production Expenses (N10) DOL: Enter the total of all production expenses (in dollars).
24	Expenses MILS Per Net KWH (N4.1) MIL/KWH: Enter the joint or multiple use maintenance expenses (in mils).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0642	PUMPED STORAGE PLANT COSTS AND EXPENSES	1 of 3

I. DESCRIPTION

This schedule is used to collect data on costs and expenses associated with the construction, operation, and maintenance of pumped storage plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with pumped storage generating capacity of 10 megawatts or greater.

B. Respondents shall complete all data fields on this schedule annually.

C. Include in the total for data field 24 (Pumping Expenses) the cost of energy used in pumping into the storage reservoir. When the item cannot be accurately computed, leave data fields 24, 27, and 28 blank. If these fields are not completed, submit an attached statement detailing the following: the company's principal sources of pumping power, the estimated amounts of energy from each station or other source that individually provides more than 10 per cent of the total energy used for pumping, and production expenses per net KWH as reported herein for each source described. Stations and other sources which individually provide less than 10 per cent of total pumping energy may be grouped. If contracts are made with others to purchase power for pumping, the supplier, contract number and date of contract should be stated. DO NOT append any additional information to the actual schedule of costs and expenses.

D. Data fields 3-9 represent accounts or combinations of accounts prescribed by the Uniform System of Accounts. Production expenses do not include Purchased Power, System Control and Load Dispatching, and Other Expenses classified as "Other Power Supply Expenses".

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Preprinted "HP" indicating type of plant as pumped storage. For internal Federal Power Commission processing only. (TYPLPW)
3 (Key)	Land and Land Rights Cost (N9) DOL: Enter the amount (in dollars).
4	Structures and Improvement Cost (N9) DOL: Enter the amount (in dollars) of the cost of structures and improvements.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0642	PUMPED STORAGE PLANT COSTS AND EXPENSES	2 of 3

Data Field Number	Instructions
5	Reservoirs, Dams, and Waterways Cost (N9) DOL: Enter the plant cost of these items (in dollars).
6	Waterwheels, Turbine, and Generation Cost (N9) DOL: Report the plant cost of all waterwheels, turbines, and generators (in dollars).
7	Accessory Electric Equipment Cost (N8) DOL: Report the plant cost of any accessory electric equipment (in dollars).
8	Miscellaneous Power Plant Equipment Cost (N8) DOL: Enter the plant cost of any miscellaneous power plant equipment (in dollars).
9	Roads, Railroads, and Bridges Cost (N8) DOL: Enter the plant cost of these items (in dollars).
10	Total Plant Cost (N10) DOL: Enter the total plant cost (in dollars).
11	Cost Per KW Installed Capacity (N6.2) DOL/KW: Report the cost per kilowatt of installed capacity (in dollars and cents).
12	Operation Expenses - Supervision and Engineering (N8) DOL: Enter all supervision and engineering expense incurred in the operation (in dollars).
13	Water for Power Expenses (N8) DOL: Report the amount of all water for power expenses (in dollars).
14	Pumped Storage Expenses (N8) DOL: Enter the total for pumped storage expenses (in dollars).
15	Electric Expenses (N8) DOL: Report the total (in dollars).
16	Miscellaneous Power Generation Expenses (N8) DOL: Enter the total of all miscellaneous pumped storage power generation expenses (in dollars).
17	Rent Expenses (N8) DOL: Enter the total of all expenses for rents associated with plant production (in dollars).
18	Maintenance Expenses - Supervision and Engineering (N8) DOL: Enter the total of all supervision and engineering expenses incurred in the maintenance of the plant (in dollars).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0642	PUMPED STORAGE PLANT COSTS AND EXPENSES	3 of 3

Data Field Number	Instructions
19	Maintenance Expenses - Structures (N8) DOL: Enter the total of all expenses associated with the maintenance of structures (in dollars).
20	Maintenance Expenses - Reservoirs, Dams, and Waterways (N8) DOL: Report the total of all expenses incurred in the maintenance of all reservoirs, dams, and waterways (in dollars).
21	Maintenance Expenses - Electric Plant (N8) DOL: Report the total for the maintenance of electric plant (in dollars).
22	Maintenance Expenses - Miscellaneous Pumped Storage Plant (N8) DOL: Enter the total associated with the expense of maintaining the miscellaneous pumped storage plant (in dollars).
23	Production Expenses Before Pumping Expenses (N8) DOL: Enter the production expenses before pumping expenses (in dollars).
24	Pumping Expenses (N10) DOL: Report the total expense incurred in pumping (in dollars).
25	Joint or Multiple Use Operating Expenses (N5) DOL: Enter the joint or multiple use operating expenses (in dollars).
26	Joint or Multiple Use Maintenance Expenses (N5) DOL: Enter the joint or multiple use maintenance expenses (in dollars).
27	Total Production Expenses (N10) DOL: Enter the total of all production expenses (in dollars).
28	Expenses Per KWH (N4.1) MIL/KWH: Enter expenses per net kilowatt-hour (in mills).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0643	STEAM-ELECTRIC PLANT COSTS AND EXPENSES	1 of 3

I. DESCRIPTION

This schedule is used to collect data concerning costs and expenses of steam-electric plants, operations fueled by nuclear power, and gas-turbine units functioning in combined cycle with conventional steam units. Selected plant operating parameters are also included in this schedule.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants as follows: Steam-electric (including nuclear or combined cycle) with installed generating capacity of 25 megawatts or greater. List steam and gas-turbine units operated as a combined cycle operation separately, if part of a multi-unit plant.

B. Respondents shall complete all data fields on this schedule annually.

C. If the respondent operates a generating plant which uses nuclear power, please append: (a) a brief explanatory statement concerning accounting for the cost of power generated including any attribution of excess costs to research and development expenses; (b) a brief explanation of types of cost units and with respect to the various components of the fuel cost, and (c) such additional information as may be informative concerning the type of plant, kind of fuel used, fuel enrichment by type and quantity for the reporting period and other physical and operating characteristics of the plant.

D. The item under cost of plant, represent accounts or combinations of accounts prescribed by the Uniform System of Accounts. Production expenses do not include Purchased Power, System Control and Load Dispatching, or Other Expenses classified as "Other Power Supply Expenses".

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Land and Land Rights Cost (N10) DOL: Enter the amount (in dollars).
4	Structures and Improvements Cost (N10) DOL: Enter the amount (in dollars) for costs of structures and improvements.
5	Equipment Cost (N10) DOL: Enter the amount (in dollars).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0643	STEAM-ELECTRIC PLANT COSTS AND EXPENSES	2 of 3

Data Field Number	Instructions
6	Total Plant Cost (N8) MDOL: Enter the total plant cost (in thousands of dollars).
7	Cost Per KW Installed Capacity (N6.2) DOL/KW: Enter the cost per kilowatt of installed capacity (in dollars and cents).
8	Operation Expenses - Supervision and Engineering (N8) DOL: Enter all supervision and engineering expenses (in dollars) incurred in the operation of the plant.
9	Fuel Expenses (N10) DOL: Enter fuel expenses (in dollars) incurred during plant production.
10	Coolants and Water Expenses (N8) DOL: Report the production expenses (in dollars) incurred related to coolants and water. This element should be completed by nuclear plants only.
11	Steam Expenses (N8) DOL: Enter steam production expenses (in dollars).
12	Steam from Other Sources (N8) DOL: Enter expenses (in dollars) related to steam from other sources.
13	Steam Transferred - Credit (N8) DOL: Enter the expense (in dollars) of steam transferred.
14	Electric Expenses (N8) DOL: Report the amount (in dollars).
15	Miscellaneous Steam or Nuclear Power Expenses (N8) DOL: Enter the miscellaneous expense (in dollars) incurred in the production of either steam or nuclear power.
16	Rent Expenses (N8) DOL: Report all rent expenses (in dollars) associated with plant production.
17	Maintenance Expenses - Supervision and Engineering (N8) DOL: Enter all supervision and engineering expenses (in dollars) related to maintenance of production facilities.
18	Maintenance Expenses - Structures (N8) DOL: Enter expenses (in dollars) related to maintenance of structures.
19	Maintenance Expenses - Boiler-Reactor (N8) DOL: Report the expense (in dollars) incurred in the maintenance of boiler or reactor plant.
20	Maintenance Expense - Electric Plant (N8) DOL: Enter expense (in dollars) incurred in maintenance of electric plant.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0643	STEAM-ELECTRIC PLANT COSTS AND EXPENSES	3 of 3

Data Field Number	Instructions
21	Maintenance Expense - Miscellaneous Steam or Nuclear (N8) DOL: Enter expense (in dollars) related to miscellaneous steam or nuclear plant.
22	Total Production Expenses (N10) DOL: Report the total (in dollars) of all production expenses.
23	Expenses Per Net KWH (N5.2) MIL/KWH: Enter all expenses (in mills) per net kilowatt hour.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0644	SMALL PLANT COSTS AND EXPENSES	1 of 2

I. DESCRIPTION

This schedule is used to collect data on annual operations of small electric generating plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all small plants operated by all classes of respondents. Small plants are defined as steam-electric of less than 25 megawatts, internal-combustion or gas-turbine; conventional hydro and pumped storage plants of less than 10 megawatts installed capacity. If any plant is equipped with combinations of steam, hydro, internal-combustion or gas-turbine equipment, each should be reported separately using the same plant code in data field 1.

B. Respondents shall complete all data fields on this schedule annually.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter one of the abbreviations for generating type from the following: (TYPLMW) ST = Steam-Electric HY = Hydroelectric (conventional) HP = Hydroelectric (pumped storage) IC = Internal Combustion GT = Gas-Turbine
3 (Key)	Data Year (N4): Year for which data is being reported, in the format YYYY. (TMYEAR)
4	Non-Fuel Operating Expenses (N10) DOL: Enter production expenses (in dollars) for operation of plant for report year, excluding fuel expenses.
5	Maintenance Expenses (N8) DOL: Enter production expenses (in dollars) for maintenance of plant during the report year.
6	Total Production Expenses (N9) DOL: Enter total production expenses (in dollars) for report year.
7	Production Expenses for Fuel (N9) DOL: Enter production expenses (in dollars) for fuel for report year.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0644	SMALL PLANT COSTS AND EXPENSES	2 of 2

Data Field Number	Instructions
8	Plant Cost (N10) DOL: Enter the total cumulative cost (in dollars) of plant installation.
9	Cost per KW Installed Capacity (N6.2) DOL/KW: Enter the plant cost (in dollars and cents) per kilowatt of installed capacity.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0645	ANNUAL SMALL PLANT FUEL DATA	1 of 1

I. DESCRIPTION

This schedule is used to collect data on fuels used at small electric generating plants, as defined below.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all fossil-fuel fired small electric generating plants as follows: steam-electric with less than 25 megawatts of installed generating capacity (maximum nameplate rating) during the subject year; internal-combustion or gas-turbine with less than 10 megawatts of installed generating capacity (maximum nameplate rating) during the subject year.

B. Respondents shall complete all data fields on this schedule annually.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter "ST" for steam-electric; "IC" for internal combustion engine; or "GT" for gas turbine. (TYPLPW)
3 (Key)	Fuel Type (N2): Enter the code for type of fuel used at plant during the subject year, from the Register of Data Standards, TYFUEL. Note: Complete one entry for each type of fuel used within each plant.
4	Fuel Quantity (N4) NO: Enter the quantity of each type of fuel consumed at plant during subject year. Report in the unit of measurement entered in data field 5 below.
5	Unit of Measure (A5): Enter the abbreviation for the unit of measurement for each quantity of fuel reported in data field 4 above, from the Register of Data Standards, TYUMMS.
6	Cost Per Million BTU (N4.2) DOL/MBT: Enter the annual average cost, in cents per million BTU, for each quantity of fuel reported in data field 4 above.

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RIS FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM

DETAILED INSTRUCTIONS: SCHEDULE 0647 — ANNUAL LARGE PLANT UNIT PERFORMANCE DATA — 1 of 2

I. DESCRIPTION

This schedule is used to collect the data concerning unit performance of generating units for the reporting year.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all large generating plants which have steam-electric generating capacity of 25 megawatts or greater and hydroelectric including conventional and pumped storage, internal combustion, and gas-turbine of 10 megawatts or greater.

B. Respondents shall complete all data fields on this schedule annually.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key).	Generating Type (A2): Enter one of the abbreviations for type of generating unit, from the following list: (TYPLPW) ST = Steam-Electric HY = Hydroelectric (conventional) HP = Hydroelectric (pumped storage) IC = Internal Combustion GT = Gas Turbine CS = Steam (combined cycle) CG = Gas Turbine (combined cycle)
3 (Key)	Generating Group ID (A5): Enter the unique identification code assigned by the respondent for each generating group. (IDEQPT)
4 (Key)	Generating Unit ID (A5): Enter the unique identification code assigned by the respondent to the generating unit. Each generating unit is to be reported in a separate entry. (IDEQPT)
5	Hours On Line (N4) HR: Enter the number of hours during which the unit was actually on line.
6	Hours Available (N4) HR: Enter the number of hours during which the unit was not actually on line but was available for service.

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RIS FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM

DETAILED INSTRUCTIONS: SCHEDULE 0647 — ANNUAL LARGE PLANT UNIT PERFORMANCE DATA — 2 of 2

Data Field Number	Instructions
7	Maintenance Hours (N4) HR: Enter the total number of hours the unit was unavailable for service due to maintenance outages. A Maintenance Outage is the removal of a unit from service to perform work on specific components which could have been postponed past the very next weekend. This is work done to prevent a potential forced outage and which could not be postponed from season to season.
8	Planned Outages (N4) HR: Enter the total number of hours the unit was on scheduled outages. A Planned Outage is the removal of a unit from service for inspection and/or general overhaul of one or more major equipment groups. This is work which is usually scheduled well in advance (e.g., annual boiler overhaul, five-year turbine overhaul).
9	Unit Heat Rate (N5) BTU/KWH: Enter the annual average heat rate (BTU/KWH) for all units except Hydro.
10	Net Generation (N8) MWH: Enter the annual net generation of the unit during the subject year. Refer to General Instructions for reporting negative values.
11	Fuel Type (N2): Enter the code for the type of fuel that can be used, from the Register of Data Standards, TYFUEL. If unit can use more than one type of fuel, use combination code.
12 (Key)	Outage Sequence Number (N3): Enter a unique outage number assigned sequentially to each outage for each unit. As many as '6' outages per unit can be reported in one set of data by filling out same information (i.e., plant code, Gen. type, etc.) on first line. (NRCADL)
13	Outage Begin Date (N6): Enter the two-digit numeric code for the month, day and last two digits of the year, in that order, for outage beginning. (TMDATE)
14	Outage Time-of-Day (N2): Enter the hour of the day, on 24-hour time, the outage began, i.e., 2:00 PM = 14, etc. (TMHRDY)
15	Number of Outage Hours (N4) HR: Enter the number of hours during which each unit was on outage.
16	Cause of Outage (N3): Enter the code for the cause of outage from the Register of Data Standards, TYOUTC.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0648	ANNUAL PEAK DEMAND ON PLANT	1 of 2

I. DESCRIPTION

This schedule is used to collect data on annual plant operation at the time of system or pool peak.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all electric generating plants whose generation is included in systems designated as Type I.

B. Respondents shall complete all data fields on this schedule annually.

C. For jointly owned units, report only the respondents' share of capacity, capability, and plant demand at the time of the system peak load. All other owners must report the same way.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter one of the abbreviations for generating type, from the following list: (TYPLPW) ST = Steam-Electric HY = Hydroelectric (conventional) HP = Hydroelectric (pumped storage) IC = Internal Combustion GT = Gas Turbine CC = Combined Cycle
3 (Key)	Indicator System or Pool (N1): Enter "1" if the data is for a single system; or enter "2" if the data is for pool or combined systems. (INETOR)
4	Peak Load Time (N2): Enter the time (in 24 hour clocktime) of the system peak load of the year. For example, 8 A.M. must be reported as 08 and midnight must be reported as 24. (TMHRDY)
5	Peak Load Date (N4): Enter the month and day, in the format MMDD, of the system peak load of the year. For example, January 1 must be reported as 0101 and December 31, must be reported as 1231. (TMDATE)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0648	ANNUAL PEAK DEMAND ON PLANT	2 of 2

Data Field Number	Instructions
6	Demand Interval (N2): Enter the demand interval (in minutes) of the system peak load of the year), from the Register of Data Standards, TYDMIN.
7	Installed Capacity (N5.2) MW: Enter the total maximum nameplate rating of installed capacity (in megawatts) of generating units which were carrying load or operating as spinning reserve, in the plant, at the time of the system peak load of the year.
8	Net Plant Capability (N8) MW: Enter the net plant capability of the plant at the time of the system peak load of the year. Complete this field whether or not the plant was carrying load or was maintained as reserve at that time. Include the capacity of equipment which was out of service for maintenance or repair at that time and exclude the capacity of requirement not maintained in condition to operate for regular or emergency service. The "capability" of a plant refers to its load-carrying ability at the specified power factor and indicated time interval independent of other characteristics of the load. "Net plant capability" refers to the maximum load-carrying capacity normally available at time of system peak (station use deducted) for a period of one-hour.
9	Net Plant Demand (N8) MW: Enter the integrated net demand on the plant for the interval during which the system peak load of the year occurred.
10	Type of Service (A2): Enter the abbreviation for type of service, from the Register of Data Standards, TYUTSV.

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R&S	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0649	MONTHLY PLANT FUEL CONSUMPTION AND QUALITY	1 of 2

I. DESCRIPTION

This schedule is used to collect data on the quantity and quality of fossil fuels consumed monthly at electric generating plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all fossil fuel-fired electric generating plants having a capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule annually.

C. Complete one line of data for each month and each type of fuel consumed at plant. Annual totals and weighted averages are also required. Fuel quality values, in data fields 5-8, should be reported as weighted averages for the month, to the nearest 0.1 per cent (based on weight of fuel consumed). These values should be reported on an "as burned" basis. If quality is available on "as received" basis, or if fuel is a blend of two or more types of fuel with distinctly different qualities (e.g. Eastern and Western coal), this should be described in a footnote.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Month (N2): Enter the correct code for the month, from the Register of Data Standards, TMMOYR.
3 (Key)	Fuel Type (N2): Enter the code for each type of fuel consumed at plant, from the Register of Data Standards, TYFUEL.
4	Consumption (N5.3) NO: Enter the monthly quantity (in the units specified below) of each fuel consumed at plant. Report quantities consumed in the following units: Coal - 1000 tons, Oil - 1000 barrels (42 gallon barrels), Gas - 1000 Mcf, rounded to three decimal places.
5	Btu Content (N6) BTU: Enter the weighted average heating value (in units specified below) for each quantity of fuel reported in data field 4 above. Report as follows: Coal and other solid fuels - Btu/Pound Oil and other liquid fuels - Btu/Gallon Gas and other gaseous fuels - Btu/Cubic foot

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R&S	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0649	MONTHLY PLANT FUEL CONSUMPTION AND QUALITY	2 of 2

Data Field Number	Instructions
6	Sulfur Content (N1.3) PCT: Enter the average sulfur content (in percent of weight) for each quantity of coal or oil or other solid and liquid fuels reported in data field 4 above, rounded to three decimal places.
7	Ash Content (N2.2) PCT: Enter the average ash content (in percent of weight) for each quantity of coal or other solid fuels reported in data field 4 above, rounded to two decimal places.
8	Moisture Content (N2.1) PCT: Enter the average moisture content (in percent of weight) for each quantity of coal or other solid fuels reported in data field 4 above, rounded to one decimal place.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0650	ANNUAL BOILER FUEL USE AND OPERATION	1 of 2

I. DESCRIPTION

This schedule is used to collect data on fuel usage and operation factors of fossil fuel-fired boilers at steam-electric generating plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule annually.

C. Repeat data field numbers 4-10 to the number of boilers in plant. Submit one schedule for each plant.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Generating Group ID (A5): Enter the unique identification code assigned by the respondent to the "Generating Group". (IDEQPT)
4 (Key)	Boiler ID (A5): Enter the unique identification code assigned by the respondent to each boiler in the plant. (IDEQPT)
5	Coal Consumption (N4.3) MTON: Enter the annual coal consumption, in 1000 tons, of each boiler listed in data field 4 above.
6	Heavy Oil Consumption (N4.3) MBBL: Heavy oil consists of F04, F05, F06, or crude oil. Enter the annual heavy oil consumption, in 1000 barrels, of each boiler listed in data field 4 above.
7	Distillate Oil Consumption (N4.3) MBBL: Distillate oil is defined as fuel oil #2 (F02). Enter the annual distillate oil consumption, in 1000 barrels, of each boiler listed in data field 4 above.

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DETAILED INSTRUCTIONS: SCHEDULE 0650	ANNUAL BOILER FUEL USE AND OPERATION	2 of 2

Data Field Number	Instructions
8	Gas Consumption (N4.3) MMCF: Enter the gas consumption, in 1000 Mcf, of each boiler listed in data field 4 above.
9	Total Operation Hours (N4) HR: Enter the total number of hours of boiler operation during year.
10	Capacity Factor (N3.2) PCT: Enter the capacity factor (percent) of the boiler using the following equation: $\frac{\text{(Pounds of steam produced during the year)}}{\text{(Maximum steam capacity in lbs/hr) X (Total hours in year)}} \times 100$

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0651	MONTHLY BOILER FUEL CONSUMPTION AND PEAK OPERATION	1 of 2

I. DESCRIPTION

This schedule is used to collect data on the monthly fuel consumption and operation at peak periods of fossil fuel fired boilers at steam-electric generating plants.

II. GENERAL INSTRUCTIONS

A. This schedule shall be submitted by electric utility plants with fossil fuel-fired steam-electric generating capacity of 25 megawatts or greater during the subject year, for each boiler which operated or consumed fossil fuels for generation or standby service.

B. Respondents shall complete all data fields on this schedule annually.

C. Data fields 19-22 refer to 'System' peak weeks or lowest power period for 'System' and not to the plant or unit.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	Generating Group ID (A5): Enter the unique identification code assigned by the respondent to the generating group associated with the boiler unit specified in data field 4 below. "Generating Group" is defined in the General Instructions - Electric Utility Respondents. (IDEQPT)
4 (Key)	Boiler ID (A5): Enter the unique identification code assigned by the respondent to the boiler being described in data fields 5-22 below. (IDEQPT)
5 (Key)	Fuel Type (N2): Show the type of fuel consumed in the boiler shown in data field 4 above. Enter the code, from the Register of Data Standards, TYFUEL.
6	January Amount (N4.3) NO: Enter the amount of fuel consumed in January for the type of fuel specified in data field 5. Report coal consumption in (1000 tons), oil in (1000 bbls), and gas in (1000 Mcf).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0651	MONTHLY BOILER FUEL CONSUMPTION AND PEAK OPERATION	2 of 2

Data Field Number	Instructions
7-17	February Amount - December Amount (N4.3) NO (each field): Enter the amount of fuel consumed for the month specified in the data field title. See data field 6 above, for further instructions.
18	Period (N1): This is a preprinted data field for Federal Power Commission internal processing only. (THEWYR) 4 = Winter Peak Week 2 = Summer Peak Week 0 = Lowest Power Period Week
19	Weekday High Output (N1): Enter the appropriate boiler operation code for the consecutive four hours of highest system output (weekdays), from the Register of Data Standards, TYBLOL.
20	Weekday Low Output (N1): Enter the appropriate boiler operation code for the consecutive four hours of lowest system output (weekdays), from the Register of Data Standards, TYBLOL.
21	Weekend High Output (N1): Enter the appropriate boiler operation code for the consecutive four hours of highest system output (weekends). The weekend period extends from midnight Friday to midnight Sunday, from the Register of Data Standards, TYBLOL.
22	Weekend Low Output (N1): Enter the appropriate boiler operation code for the consecutive four hours of lowest system output (weekends), from the Register of Data Standards, TYBLOL.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0652	BOILER FLUE-GAS CLEANING EQUIPMENT - OPERATIONAL DATA	1 of 2

I. DESCRIPTION

This schedule is used to collect data on the operation of flue-gas cleaning equipment associated with steam-electric boilers.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants operating flue-gas cleaning equipment and having steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule annually.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): This is a preprinted data field for Federal Power Commission internal processing only. (TYPLPW)
3 (Key)	FGCE ID (A5): Enter the unique identification code assigned by the respondent to each flue-gas cleaning collector in the plant. (IDEQPT)
4 (Key)	Type FGCE Code (A4): Enter the abbreviation for type of flue-gas cleaning equipment, identified in data field 3 above, as specified in the Register of Data Standards, TYFGCE.
5	Total Hours (N4) HR: Total hours for the year during which all electrical bus sections are energized and while boiler is operating (electrostatic types only).
6	Efficiency (N2.2) PCT: Tested efficiency of unit, rounded to two decimal places.
7	Date Tested (N6): Show the day, month, and year when the FGCE unit was tested, in the format MMDDYY. (TMDATE)
8	Not Fully Operational Hours (N4) HR: State number of hours during year when precipitator is not fully operational while boiler is operating (electrostatic or combination FGCE types only)

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DETAILED INSTRUCTIONS: SCHEDULE 0652	BOILER FLUE-GAS CLEANING EQUIPMENT - OPERATIONAL DATA	2 of 2

Data Field Number	Instructions
9	Efficiency When Not Fully Operational (N2.1) PCT: Estimated efficiency during periods when boiler is operating but when precipitator is not fully operational (electrostatic or combination FGCE types only).
10	Estimated Efficiency Annual Factor (N2.1) PCT: Estimated efficiency at annual operating factor (if no test during year).
11	Desulfurization System Hours (N4) HR: Hours of service during year of desulfurization system, if operational.
12	Name Other FGCE Type (A20): If "OTHR" is entered in data field 4 above, enter the name of the other type. (IDDESC)
13	Other FGCE in Service Hours (N4) HR: Enter the number of hours in FGCE the unit reported in data field 12 was in service.
14	Unusual Operating Conditions (A20): Briefly explain, in the 20 characters provided, any unusual operating conditions associated with the FGCE unit being described. (IDDESC)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0653	CHEMICALS USED IN PLANT COOLING AND BOILER WATER	1 of 1

I. DESCRIPTION

This schedule is used to collect data on chemical usage in the cooling system and boiler water make-up system at steam-electric plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all the data fields on this schedule annually.

C. Note that the chemical codes contained in the Register of Data Standards are in some cases generalized. For example, a single code is to be used for phosphate, disodium phosphate, and trisodium phosphate. Also, the code for chlorine is to be used for both chlorine and sodium hypochlorite. Finally, note that there are separate codes to be used for liquid or dry H_2SO_4 and some other chemicals commonly used in both states.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Indicator Water Type (N1): Enter "1" for boiler water makeup; or enter "2" for cooling water. (INWTOR)
3 (Key)	Chemical ID (N1): Enter code, from the Register of Data Standards, TYCHEM.
4	Amount Used (N8) NO: Enter the quantity of each chemical used during the year. Note that all chemicals are to be reported in pounds with the exceptions of hydrozine (gallons) and liquid sulfuric acid (gallons).
5	Chemical Title (A25): Enter only the names of chemicals not found in the Register of Data Standards list of codes for "Chemical ID", (data field 3). Do not enter chemicals for which the quantity used was less than 100 pounds or an equivalent liquid measure. (IDDESC)
6	Amount Used (N8) MTON: Enter the quantity (in 1000 tons) of each chemical (indicated in data field 5 above) used during the year. Note that no quantities less than 100 pounds or an equivalent liquid measure need be entered.
7	Units Reported (A5): Enter the abbreviation for units of measurement used for each chemical reported, from the Register of Data Standards, TYUNMS.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0654	PLANT DISPOSAL OF COMBUSTION CYCLE PRODUCTS	1 of 2

I. DESCRIPTION

This schedule is used to collect data on the impact of fossil fuel combination-cycle product disposal operations at steam-electric plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric generating capacities of 25 megawatts or greater, and which consumed coal and/or oil during the subject year. Solely gas-fired plants need not report this schedule.

B. Respondents shall complete all data fields on the schedule annually.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Product Type (N1): Enter the code, from the Register of Data Standards, TYCBBP.
3	Total Amount Collected (N9) MTON: Enter the total quantity in 1000 tons) of each product collected for the year. For fly-ash and bottom-ash the total should approximate the amount of ash and other non-combustible matter in the coal consumed minus the amount of ash emitted to the atmosphere.
4	Amount Sold (N8) MTON: Enter the quantity (in 1000 tons), of each product sold for the year.
5	Paid Disposal Amount (N8) MTON: Enter the quantity (in 1000 tons) for each product for which disposal was paid during the year.
6	Amount to Landfill (N8) MTON: Enter the quantity (in 1000 tons) of each product which was disposed to landfill during the year. Note that this includes the filling in of low lands or artificial ponds even though the ash may have been transported to the fill area by water.
7	Water Disposal Amount (N8) MTON: Enter the quantity (in 1000 tons) of each product which was disposed by water disposal during the year. Note that this includes only those quantities of products discharged into bodies of water for dispersion.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0654	PLANT DISPOSAL OF COMBUSTION CYCLE PRODUCTS	2 of 2

Data Field Number	Instructions
8	Other Disposal Amount (N8) MTON: Enter the quantity (in 1000 tons) of each product which was disposed of by any method not detailed in data fields 4-7 above.
9	Other Disposal Method (A20): Enter a brief descriptive name of the method used associated with the quantity in data field 8 above. Abbreviate if necessary. (IDDESC)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0655	PLANT COMBUSTION CYCLE ADDITIVES	1 of 1

I. DESCRIPTION

This schedule is used to collect data on additives used in the combustion cycles of steam-electric plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all oil or gas fired plants with steam-electric generating capacity of 25 megawatts or greater. Only those plants which used combustion cycle additives during the reporting year need submit this schedule.

B. Respondents shall complete all data fields on this schedule annually.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Name of Additive (A25): Enter the name of any combined cycle additives used. Three lines are provided for entry of the names of additives for each plant. (IDDESC)
3	Quantity of Additive (N7) MTON: Enter the associated quantity (in 1000 tons) for each additive named in data field 2 below.
4	Additive Unit (A5): Enter the abbreviation for unit of measure associated with the specific quantity in data field 3 above, from the Register of Data Standards, TYUNMS.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0656	ANNUAL PLANT ENVIRONMENTAL DATA	1 of 3

I. DESCRIPTION

This schedule is used to collect data on the revenues and expenses associated with air quality control.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with a steam-electric generating capacity of 25 megawatts or greater during the year reported.

B. Respondents shall complete all data fields on this schedule annually.

C. All expenses and revenues are to be reported in units of $1000. Additive amounts should be reported in units of 1000 tons, to nearest 0.01 thousand tons.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, INPLNT.
2 (Key)	Data Year (N4): Year for which data is being reported. (INYEAR)
3	Combined Cycle Additive - Amount of Limestone (N3.2) MTON: Report amount of limestone additive used (in 1000 tons), rounded to two decimal places.
4	Combined Cycle Additive - Amount of Dolomite (N3.2) MTON: Report amount of dolomite additive used (in thousands of tons), rounded to two decimal places.
5	Byproduct Purity of Sulfuric Acid Per Cent (N3) PCT: Enter purity of any sulfuric acid collected from combustion cycle (in percent by weight).
6	Air Quality Flyash Collection - Disposal Expenses (N8) MDOL: Enter expenses charged to flyash collection and disposal. Do not report the combined cost of flyash and bottom ash disposal. If only one figure is available, estimate separate amounts (in 1000 dollars).
7	Air Quality Bottom Ash Collection - Disposal Expenses (N8) MDOL: Enter expenses charged to bottom ash collection and disposal, as above (in 1000 dollars).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0656	ANNUAL PLANT ENVIRONMENTAL DATA	2 of 3

Data Field Number	Instructions
8	Air Quality Sulfur Collection - Disposal Expenses (N8) MDOL: Enter expenses charged to sulfur and sulfur product collection and disposal (in 1000 dollars).
9	Air Quality Other Collection - Disposal Expenses (N8) MDOL: Enter expenses charged to collection and disposal of any other products (in 1000 dollars).
10	Other Air Quality Control Expenses - Explanation (A20): Enter a brief description of other air quality control and maintenance expenses incurred during year. (IDDESC)
11	Other Air Quality Control Expenses (N8) MDOL: Enter air quality control expenses for operations described in data field 10 above. Do not include "incremented cost" of low sulfur fuels or capital costs of air quality control equipment installed (in 1000 dollars).
12	Air Quality Total Expense (N9) MDOL: Enter total air quality control expenses for year (in 1000 dollars).
13	Air Quality Flyash Sales Revenue (N8) MDOL: Enter revenue from sales of flyash (if sold as flyash) (in 1000 dollars).
14	Air Quality Bottom Ash Sales Revenue (N8) MDOL: Enter revenue from sales of bottom ash (if sold as bottom ash) (in 1000 dollars).
15	Air Quality Intermingled Sales Revenue (N8) MDOL: Enter revenue from sales of intermingled flyash and bottom ash (in 1000 dollars).
16	Other Air Quality Control Revenues - Explanation (A20): Enter a brief description of other air quality control revenues or by-product sales. (IDDESC)
17	Air Quality Sulfur and Byproducts Sales Revenues (N8) MDOL: Enter revenue from sales of sulfur and sulfur byproducts (in 1000 dollars).
18	Other Air Quality Control Operating Revenues (N9) MDOL: Enter revenue from other air quality control operation or byproduct sales, as described in data field 16 above (in 1000 dollars).
19	Total Air Quality Control and Byproduct (N9) MDOL: Enter total annual revenue from air quality control operations and byproduct sales (in 1000 dollars).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0656	ANNUAL PLANT ENVIRONMENTAL DATA	3 of 3

Data Field Number	Instructions
20	Incremental Cost of Low Sulfur Fuel (NS) MDOL: Report the incremental costs incurred when purchasing low-sulfur fuel for meeting air quality control regulations (in 1000 dollars).

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0657	WATER TEMPERATURE AND FLOW AT SEASONAL PEAKS	1 of 1

I. DESCRIPTION

This schedule is used to collect data on conditions at steam-electric plant cooling water supply sources during the months of system peak power loads in summer and winter seasons.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule annually.

C. All entries should reflect the actual operations of the plant during the year and not the design characteristics.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Type Peak (N1): Complete two entries for each plant with distant seasonal peaks. Enter one set of figures for the winter peak month and one set for the summer peak month. Enter (in data field 2) "4" for winter, or "2" for summer, or "0" for no seasonal peak. Note that the field refers to utility or system peak and not to that of the plant. (TMSNYR)
3 (Key)	Peak Load Month (N2): Enter the code for the peak load month in each logical entry, from the Register of Data Standards, TMMOYR.
4	Maximum Water Temperature at Diversion (N2) DEGF: Enter the maximum water temperature at the diversion of the natural water body supplying cooling water for plant. This refers to the temperature prior to any effect by the plant or diverting facilities.
5	Maximum Water Temperature at Outfall (N2) DEGF: Enter the maximum water temperature at the outfall to the natural water body receiving cooling water from the plant. This refers to the temperature of the cooling water immediately before it joins the water body. It includes the effects of all devices used to reduce the temperature.
6	Average Flow in Receiving Water (N5) CFS: Enter the monthly average flow (in CFS) in the receiving water body for each peak month reported. For tidal water bodies disregard this data field.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0658	COOLING SYSTEM OPERATIONAL DATA	1 of 2

I. DESCRIPTION

This schedule is used to collect operational data on plant cooling systems.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric generating capacity of 25 megawatts, or greater, during the subject year.

B. Respondents shall complete all data fields on this schedule annually.

C. Data fields 5, 6 and 7 refer to lakes, reservoirs, streams, wells, estuaries and oceans supplying the cooling water and receiving the final discharge. Cooling ponds and cooling towers are considered to be a part of the plant and withdrawals and discharges between these facilities and the plant should not be reported. Make-up requirements are an exception to this condition. The operation and maintenance expenses should include such expenses for pumps, ponds, cooling towers, fans, cooling water intakes and outlets, piping, and other costs associated with cooling water operation. The operation and maintenance expenses for condenser operation should not be included. Costs should be in accordance with the Federal Power Commission Uniform System of Accounts prescribed for Public Utilities and Licensees. The cost of chemical additives should be excluded from the operation and maintenance expenses and shown separately as indicated.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Cooling Facility ID (A5): Enter the unique cooling facility identification code assigned by the respondent. This code is the same code used on Schedule 0625, data field 3 and Schedule 0626, data field 3.
3 (Key)	Cooling Facility Type (A3): Code identifying cooling facility type as found in the Register of Data Standards, 1TCLCD.
4 (Key)	Combination System Indicator (N1): Is this system a combined system? Enter "1" for yes; "0" for no. (INYONO)
5	Combined Use Indicator (N1): If combined systems are used independently, enter "1" in this data field; if not, enter "0". (INYONO)

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DETAILED INSTRUCTIONS: SCHEDULE 0658	COOLING SYSTEM OPERATIONAL DATA	2 of 2

Data Field Number	Instructions
6	Cooling System Average Withdrawal Rate (N3.2) CFS: Enter average annual rate of withdrawal of cooling water from water supply sources.
7	Cooling System Average Discharge Rate (N3.2) CFS: Enter average annual rate of discharge of cooling water into receiving water bodies.
8	Average Rate of Water Consumption (N2.2) CFS: Enter average annual rate of consumption of cooling water (i.e., must include quantities of water withdrawn after make-up purposes).
9	Cooling Water Operation-Maintenance Expenses (N7) MDOL: Enter the annual cooling water operation and maintenance expenses (in 1000 dollars).
10	Cooling Water Chemical Additives Cost (N7) MDOL: Enter annual cost of chemical additives used in cooling water operations (in 1000 dollars).
11	Boiler Water Operation-Maintenance Expenses (N7) MDOL: Enter the annual boiler water operation and maintenance expenses for boiler water makeup and boiler water blowdown treatment (in 1000 dollars).
12	Boiler Water Chemical Additives Cost (N7) MDOL: Enter annual cost of chemical additives used in boiler water makeup and boiler water blowdown treatment (in 1000 dollars).
13	Generating Capacity (N11) MW: Enter generating capacity served by cooling facility.

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DETAILED INSTRUCTIONS:
SCHEDULE 0659 — PLANT PROJECTION DATA — 1 of 6

I. DESCRIPTION

This schedule is used to collect data related to current steam-electric plant operating conditions, and projected conditions five years in the future and ten years in the future.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with steam-electric generating capacity of 25 megawatts or greater during the subject year.

B. Respondents shall complete all data fields on this schedule annually.

C. Where used in this schedule current year means the year for which the data is reported; not the year in which data is submitted. The first forecasted year pertains to the current year plus 5 years, and the second forecasted year pertains to the current year plus 10 years.

D. When completing this schedule, enter the plant code and the plant name in data fields 1 and 2, respectively. Show all data for the current year in logical entry number 1 (lines 6-16); show all projected data for the first forecasted year in logical entry number 2 (lines 18-28); and show projected data for the second forecasted year in logical entry number 3 (lines 30-40). Note: Data reported for projected years must reflect yearly not cumulative totals.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2	Plant Name (A35): Enter the full name of the plant, from the Register of Data Standards, IDPLNT.
3 (Key)	Projected Year (N4): In the first logical entry (lines 6-16) enter the current year. In the second logical entry (lines 18-28) enter the first forecasted year (current year plus 5 years). In the third logical entry (lines 30-40) enter the second forecasted year (current year plus 10 years). (TMYEAR)
4	Indicator Future or Current (N1): In logical entries 2 and 3 enter a "1" if projected data pertains to a totally new plant scheduled for operation during the 10 years forecasted. Enter a "2" if projected data pertains to a plant which operated during the current year. (INETOR)
5	Total Generator Groups (N3) NO: In logical entry number 1 show the total number of boiler-generator groups installed at

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DETAILED INSTRUCTIONS:
SCHEDULE 0659 — PLANT PROJECTION DATA — 2 of 6

Data Field Number	Instructions
5 (cont'd)	the plant as of the end of the current year. A boiler-generator unit refers to any combination, i.e., one boiler and one generator; two boilers and one generator; one boiler and four generators, etc., operating as a unit.
6	Number Operating Generator Groups (N3) NO: Enter the number of generating groups in operation during the subject year. "Generating groups" are defined in the instructions to data field 5 above.
7	Total Nameplate Capacity (N7) MW: Enter the total nameplate generating capacity (in megawatts) at maximum hydrogen pressure, of the generating groups enumerated in data field 5 above.
8	Total Land Requirements (N8) ACRE: Enter the total land (in acres) in use for plant. Include land for generating plant, substations, field storage areas, waste disposal areas, cooling facilities, etc.
9	Number Planned Generator Groups (N2) NO: Enter the number of new generating groups planned for installation in future years only.
10	Total New Nameplate Capacity (N7) MW: Enter the total nameplate capacity, (in megawatts) at maximum hydrogen pressure, of the new generating groups enumerated in data field 9 above, only.
11	Planned Land Requirements (N6) ACRE: Enter the total land (in acres) planned or estimated to be required for new plant or new units in future years only.
12	Quantity Coal Consumed (N4.3) TON: Enter the total quantity (in 1000 tons) of coal consumed at plant during the subject year.
13	Coal Btu Content (N5) BTU: Enter the annual weighted average heating volume (in Btu/pound) of the coal entered in data field 12 above.
14	Coal Sulfur Content (N1.2) PCT: Enter the weighted average sulfur content (as a percentage to two decimal places) of the coal entered in data field 12 above.
15	Bureau of Mines District (N2): Enter the numeric code only for the source of coal entered in data field 12 above. Enter the code for the Bureau of Mines coal producing district,

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DETAILED INSTRUCTIONS: SCHEDULE 0659	PLANT PROJECTION DATA	3 of 6

Data Field Number	Instructions
15 (cont'd)	from the Register of Data Standards, IDCLDS. If coal is received from more than one producing district, show the percentage received from each district, in a footnote.
16	Coal State (A2): Enter the abbreviation for the state in which the coal was mined, from the Register of Data Standards, IDSTAT.
17	Quantity Residual Oil Consumed (N6.2) BBL: Enter the total quantity (in 1000 barrels) of residual oil consumed at the plant during the subject year.
18	Residual Oil BTU (N6) BTU: Enter the annual weighted average heating volume (in BTU/gallon) of the residual oil entered in data field 17 above.
19	Oil-Sulfur Content (N3) PCT: Enter the annual weighted average sulfur content (as a percentage) of the residual oil entered in data field 17 above.
20	Residual Oil Per Cent Domestic (N3) PCT: Enter the percentage representing that part of the residual oil (entered in data field 17 above) which was of domestic origin. The sum of this data field (20) and data field 21 must equal 100 per cent.
21	Residual Oil Per Cent Imported (N3) PCT: Enter the percentage representing that part of the residual oil (entered in data field 17 above) which was of imported origin. The sum of this data field (21) and data field 20 must equal 100 per cent.
22	Distillate Oil Quantity Consumed (N5) BBL: Enter the total quantity (in 1000 barrels) of distillate oil (No. 2) consumed at plant during the subject year.
23	Distillate Oil Per Cent Domestic (N3) PCT: Enter the percentage representing that part of the distillate oil (entered in data field 22 above) which was of domestic origin. The sum of this data field (23) and data field 24 must equal 100 per cent.
24	Distillate Oil Per Cent Imported (N3) PCT: Enter the percentage representing that part of the distillate oil (entered in data field 22 above) which was of imported origin. The sum of this data field (24) and data field 23 must equal 100 per cent.
25	Quantity Crude Consumed (N3.3) BBL: Enter total quantity (in 1000 barrels) of crude oil consumed at plant during the subject year.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0659	PLANT PROJECTION DATA	4 of 6

Data Field Number	Instructions
26	Crude-Sulfur Per Cent (N3) PCT: Enter the annual weighted average sulfur content (as a percentage) of the crude oil entered in data field 25 above.
27	Crude Per Cent Domestic (N3) PCT: Enter the percentage representing that part of the crude oil (entered in data field 25 above) which was of domestic origin. The sum of this data field (27) and data field 28 must equal 100 per cent.
28	Crude Per Cent Imported (N3) PCT: Enter the percentage representing that part of the crude oil (entered in data field 25 above) which was of imported origin. The sum of this data field (28) and data field 27 must equal 100 per cent.
29	Firm Basis Gas (N5) MMCF: Enter the quantity of gas consumed (in 1000 MCF) which was supplied on a firm (i.e., non-interruptible) basis.
30	Interruptible Gas (N5) MMCF: Enter the quantity of gas consumed (in 1000 MCF) which was supplied on an interruptible basis.
31	Gas Consumption - Total (N6) MMCF: Enter the total quantity of gas (in 1000 MCF) consumed at plant during year. This entry must equal the sum of data fields 29 and 30 above.
32	Gas BTU (N4) BTU/CU FT: Enter the annual weighted average heating value of the gas entered in data field 31 above.
33	Particulate Emissions (N3.3) MTON: Enter the total plant particulate emissions (in 1000 tons/year) estimated for the subject year by the following method. Complete for each unit: (fuel ash content minus bottom ash collected) times (1 minus control technique efficiency expressed as a decimal). Sum up emissions from all fossil fueled units. Include non-ash carbonaceous matter resulting from oil burning.
34	Sulfur Oxides (N3.3) MTON: Enter the total plant sulfur oxide emissions (in 1000 tons/year) estimated for the subject year by the following method. Complete for each unit (sulfur content of fuel minus sulfur content of product removed) times 2. Sum up emissions from all fossil fueled units.
35	Nitrogen Oxides (N6.3) MTON: Enter the total plant nitrogen oxide emissions (in 1000 tons/year) estimated for the subject year by the following plant emissions notes: Pulverized Coal, dry bottom firing (181 pounds per ton of coal); Pulverized Coal, wet bottom firing (30 pounds per ton of coal); Cyclone

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0659	PLANT PROJECTION DATA	5 of 6

Data Field Number	Instructions
35 (cont'd)	of oil); Gas (390 pounds per 100 Mcf). Subtract nitrogen oxide reduction by a control technique. If plant data indicates a rate different from any of these given here, use it.
36	Heat Rejected to Air (N4.3) BBTU: Enter total heat (in billion BTU/year) rejected to air by plant during subject year. This refers to estimated heat emission with flue gases.
37	Quantity Stack Scrub Waste (N3.3) MTON: Enter the total quantity (in 1000 tons/year) of stack gas scrubbing waste at plant during subject year. Note: An entry in this data field (37) requires an entry in data field 38 below.
38	Description - Stack Scrubbing Waste (A20): Enter a brief description of the type of stack gas scrubbing waste for which a quantity was entered in data field 37 above. (IDDESC)
39	Quantity Annual Ash Waste (N3.3) TON: Enter the total combined quantity (in 1000 tons/year) of both flyash and bottom ash collected at plant during subject year.
40	Cooling Water Source (A20): Enter the source of plant cooling water. Include both name and type of water body. For example, enter "Mississippi River," not "Mississippi." (IDDESC)
41	Per Cent Capacity Served - Once Through (N3) PCT: Enter the percentage representing that portion of total plant generating capacity (as reported in data field 7 above) served by once through cooling systems.
42	Per Cent Capacity Served - Wet Cooling Towers (N3) PCT: Enter the percentage representing that portion of total plant generating capacity (as reported in data field 7 above) served by wet cooling towers.
43	Per Cent Capacity Served - Dry Cooling Towers (N3) PCT: Enter the percentage representing that portion of total plant generating capacity (as reported in data field 7 above) served by dry cooling towers.
44	Per Cent Capacity Served - Cooling Ponds (N3) PCT: Enter the percentage representing that portion of total plant generating capacity (as reported in data field 7 above) served by artificial cooling ponds or lakes.
45	Average Water Withdrawal (N5) CFS: Enter the average annual/water withdrawal (in CFS) from the water body during the subject year.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0659	PLANT PROJECTION DATA	6 of 6

Data Field Number	Instructions
46	Average Flow Through Condenser (N5) CFS: Enter the average annual water flow (in CFS) through condensers at plant during subject year.
47	Temperature Rise (N2) DEGF: Enter the design temperature rise (in degrees Fahrenheit) across condenser at plant during subject year.
48	Water Return (N5) CFS: Enter the average annual water return (in CFS) to the water body at plant during the subject year.
49	Evaporation Loss (N5) CFS: Enter the amount of direct and indirect evaporation losses (in Cfs) of cooling water at plant during year. This refers to direct evaporation and drift from cooling system plus induced evaporation in diversion channels and in the receiving water body. If plant data is not available use the following equation: Losses = 0.0086 X Withdrawal.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0660	PLANT CAPACITY AND GENERATING UNIT CHANGES	1 of 2

I. DESCRIPTION

This schedule is designed to collect data on changes in status of existing generating units and new units made operational during the subject year.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all existing generating plants and units and new units made operational during the subject year.

B. Respondents shall complete all data fields on this schedule in their first submission only if there is a change to unit status (data field 5 of detailed instructions). On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Generating Type (A2): Enter the abbreviation for generation type from the following list: (TYPLPW) ST = Steam-electric HY = Hydroelectric (conventional) HP = Hydroelectric (pumped storage) IC = Internal Combustion GT = Gas Turbine
3 (Key)	Generating Group ID (A5): Enter the unique identification code assigned by the respondent to the generating group associated with the unit undergoing modification. (IDEQPT)
4 (Key)	Generating Unit ID (A5): Enter the unique number assigned by the respondent to each generating unit in the plant. (IDEQPT)
5	Unit Status (A4): Enter the abbreviation for unit status, from the Register of Data Standards, TYSTPL.
6	Name of Purchaser or Lessee (A35): If unit has been sold or leased to another, enter the name of purchaser or lessee. (IDNAME)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0660	PLANT CAPACITY AND GENERATING UNIT CHANGES	2 of 2

Data Field Number	Instructions
7	Address of Purchaser or Lessee (A22): Enter the state abbreviation, from the Register of Data Standards, IDSTAT, followed by the city name of the purchaser or lessee (IDCITY).
8	Installed Capacity Before Modification (N5.2) MW: Enter the installed generating capacity (maximum nameplate rating in MW) of each unit after modification or any other changes mentioned in data field 5 above.
9	Installed Capacity After Modification (N5.2) MW: Enter the installed generating capacity (maximum nameplate rating in MW) of each unit after modification or any other changes mentioned in data field 5 above.
10	Plant Net Capability After Modification (N5.2) MW: Enter the plant total net capacity after modification in MW.
11	Date of Change (N6): Enter the two-digit numeric code for the month, the day of the month, and the last two digits of the year, when the changes occurred, in the format MMDDYY. (TMDATE)

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(3-76)

RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0665	PLANT TRANSFORMER DESIGN DATA	1 of 3

I. DESCRIPTION

This schedule is used to collect data on step-up transformers installed at electric generating plants.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with electric generating capacities as follow:

Steam-electric (including nuclear) - 25 megawatts or greater
Internal combustion and gas-turbine - 10 megawatts or greater
Hydroelectric (including pumped storage) - 10 megawatts or greater

B. Respondents shall complete all data fields on this schedule in their first submission. On subsequent submissions, respondents shall submit only appropriate identification (key data fields) and changed values, additions, and deletions.

C. Note that the information requested applies to banks of identical transformers and their relationship to plant generating units.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by the data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the code, from the Register of Data Standards, IDPLNT.
2 (Key)	Bank ID (A3): Enter the unique identification code assigned (by the respondent) to each bank of transformers in the plant. Once assigned, the same code must always be used for the same banks. (IDBQPT)
3	Number of Identical Transformers (N2) NO: Enter the number of identical transformers in the bank which are currently in service.
4	Number of Identical Spares (N2) NO: Enter the number of identical transformers in the bank which are used as spares.
5	Bank Type (A4): Enter the abbreviation for each transformer bank, from the following list: (TYTRBK) 2WND - Two Winder 3WND - Three Winder AUTO - Auto Transformer
6	Phase (N1) NO: Enter transformer phase, "1", "2", or "3".

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0665	PLANT TRANSFORMER DESIGN DATA	2 of 3

Data Field Number	Instructions
7	Frequency (N2) HZ: Enter transformer frequency, in Hertz.
8	Primary Connection (A1): Enter the code for the type of primary bank connection, from the following list: (TYTRCN) Y - Wye D - Delta V - Vee G - Wye Grounded Z - Zig Zag O - Other
9	Secondary Connection (A1): Enter the code for type of secondary bank connection, from the listing in data field 8 above. (TYTRCN)
10	Tertiary Connection (A1): Enter the code for type of tertiary bank connection, from the listing in data field 8 above. (TYTRCN)
11	Primary Normal Capacity Rating (N6) MVA: Primary capacity of a single transformer at normal rating.
12	Secondary Normal Capacity Rating (N6) MVA: Secondary capacity or a single transformer at normal rating.
13	Tertiary Normal Capacity Rating (N6) MVA: Tertiary capacity of a single transformer at normal rating.
14	Primary Maximum Continuous Rating With Forced Cooling (N6) MVA: Enter the primary maximum continuous rating of single transformer with forced cooling, if installed.
15	Secondary Maximum Continuous Rating With Forced Cooling (N6) MVA: Enter the secondary maximum continuous rating of single transformer with forced cooling, if installed.
16	Tertiary Maximum Continuous Rating With Forced Cooling (N6) MVA: Enter the tertiary maximum continuous rating of single transformer.
17	Primary Voltage (N5.2) KV.
18	Secondary Voltage (N5.2) KV.
19	Tertiary Voltage (N5.2) KV.
20	Primary Bank Capacity (N5.2) MVA.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0665	PLANT TRANSFORMER DESIGN DATA	3 of 3

Data Field Number	Instructions
21	Secondary Bank Capacity (N5.2) MVA.
22	Tertiary Bank Capacity (N5.2) MVA.

NOTE: Data fields 23, 24, and 25 must be the same codes already assigned (by the respondent) on the associated plant schedules.

23 (Key)	Generating Type (A2): Enter the abbreviation for the generation type associated with the transformer bank, from the following list: (TYPLPW) ST = Steam-Electric HY = Hydroelectric (conventional) HP = Hydroelectric (pumped storage) IC = Internal Combustion GT = Gas-Turbine
24	Generating Group ID (A5): Enter the unique identification code assigned by the respondent to the generating group which is accociated with the transformer bank being described. (IDEQPT)
25	Generating Unit ID (A5): Enter the unique identification code assigned by the respondent to the generating unit which is associated with the transformer bank being described. (IDEQPT)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0854	HYDROELECTRIC STORAGE RESERVOIR CURVES	1 of 3

I. DESCRIPTION

This schedule is used to collect data on storage reservoirs. This information shall be furnished when reservoirs or effected plants were:

(a) Constructed, purchased, or leased, and placed in operation by the respondent during the year, or

(b) Operated by the respondent prior to the year covered by this statement but not reported to this Commission in the form prescribed below.

II. GENERAL INFORMATION

A. This schedule shall be submitted by all electric utilities with reservoirs under their jurisdiction.

B. Respondents shall submit this schedule with appropriate diagrams and curves on the initial submission for a reservoir. Thereafter, all respondents shall submit this schedule annually, with diagrams and curves showing changes that have occurred during the reporting period, or indicating that no changes have occurred.

C. The data on this schedule shall be reported by plant for each reservoir. However, reservoirs which are not located at a plant site shall be reported for the closest plant to which storage is provided. Curve number (1), Elevation - KWH (at site) and the name of plant site as illustrated in Addendum A, will be omitted for this condition.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the plant code, from the Register of Data Standards, IDPLNT.
2	Plant Name (A35): Enter the plant name, from the Register of Data Standards, IDPLNT.
3	Reservoir Name (A35): Enter the name of the reservoir being reported upon. (IDNAME)

Note: A "1" must be entered in one and only one of the following data fields (4, 5 or 6) below:

4	Indicator Initial Submission (N1): Enter "1" if this is the initial submission of data for the reservoir named in data field 3 above, if not, enter "0". (INYONO)

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0854	HYDROELECTRIC STORAGE RESERVOIR CURVES	2 of 3

Data Field Number	Instructions
5	Indicator Annual Submission With Changes (N1): Enter "1" if this is an annual submission of data with changes to previously submitted information; if not, enter "0". (INYONO)
6	Indicator Annual Submission Without Changes (N1): Enter "1" if this is an annual submission of data without changes from that previously submitted data (in this case the material associated with data field 7 below may be omitted); if not, enter "0". (INYONO)
7	Elevation Volume and Kilowatt Hour Curves: Provide this indicated data in this space. If this space is not adequate, the document should be attested to the schedule. The following items are requested: (1) Furnish "Elevation - Volume" and "Elevation Kilowatt-hour" curves for each storage reservoir on the system that can provide monthly or seasonal storage. A form for showing these data is illustrated in the accompanying sketch. (2) In addition to the foregoing curves, show (a) the maximum water level without spill (to be furnished for operation without and with flash boards if used), and (b) the maximum water level at which the reservoir is normally carried; (c) the minimum water level of the reservoir for plant operation at the site, and (d) the minimum water level to which water can be drawn for use at other plants; and (e) capacity-head curves for plants having large variations in head. Elevations should be referred to U.S.G.S. datum (or to the same datum as used in plant layout sketches). (3) Furnish "Operating Rule Curves" for each of the foregoing reservoirs, in the form in which they are available, and state period for which curves are applicable. See Addendum A for an illustrative diagram.

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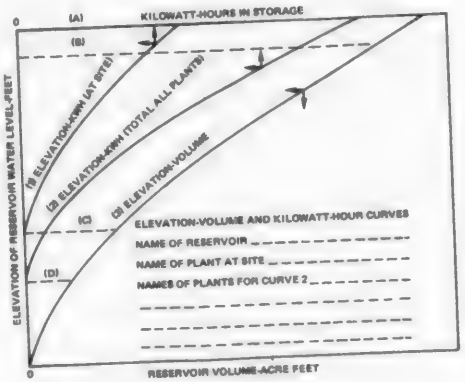
RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0854	HYDROELECTRIC STORAGE RESERVOIR CURVES	3 of 3

"ELEVATION-VOLUME" AND "ELEVATION-KILOWATT HOUR" CURVES



ADDENDUM A

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(3-76)

R&S	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0855	HYDROELECTRIC POWER PLANT DIAGRAMS AND CURVES	1 of 2

I. DESCRIPTION

This schedule is used to collect data on conventional and hydroelectric and pumped storage power plants. This information shall be furnished for qualified plants which were:

(a) Constructed, purchased, or leased, and placed in operation by the respondent during the year, or

(b) Operated by the respondent prior to the year covered by this statement but not reported to this Commission in the form prescribed below.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for plants with conventional hydroelectric pumped storage installed generating capacity of 10 megawatts or greater.

B. Respondents shall submit this schedule with sketches, curves and photographs included on the initial submission for each plant. Thereafter, all respondents shall submit this schedule annually, with maps and diagrams showing changes in the system that occurred during the reporting period, or indicating that no changes have occurred.

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the plant code, from the Register of Data Standards, IDPLNT.
2	Plant Name (A35): Enter the name of the plant, from the Register of Data Standards, IDPLNT.
Note: A "1" must be entered in one and only one of the following data fields (3, 4 or 5) below:	
3	Indicator Initial Submission (N1): Enter "1" if this is the initial submission of data for the plant identified in data field 1 above; if not, enter "0". (INYONO)
4	Indicator Annual Submission With Changes (N1): Enter "1" if this is an annual submission of data with changes to previously submitted information; if not, enter "0". (INYONO)
5	Indicator Annual Submission Without Changes (N1): Enter "1" if this is an annual submission of data without changes from that previously submitted data (in this case the material associated with data field 6 below may be omitted); if not, enter "0". (INYONO)

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R&S	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0855	HYDROELECTRIC POWER PLANT DIAGRAMS AND CURVES	2 of 2

Data Field Number	Instructions
6	Sketches, Diagrams and Photographs: Provide the indicated data in this space. If this space is not adequate, the documents may be attached to the schedule. The following items are requested: (1) For each hydroelectric plant of 10 megawatts installed capacity or greater furnish: (a) A panoramic sketch of the project, and a profile sketch of the plant layout showing elevations referred to U.S.G.S. datum, if such datum is available. Show for the dam its material and type, maximum height, total length, thickness at base, and length of spillway section. Furnish curves showing headwater and tailwater elevation, in feet, plotted against total discharge, including plant use in cubic feet per-second. (b) A photograph of the plant if available. (2) If available, furnish for all hydroelectric plants of 10 megawatts installed capacity or greater, curves showing the relation between over-all water use in cubic feet per second and gross plant load in megawatts, from minimum to full load at a constant gross head with approximates for the average head. The gross head should be stated.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0857	STEAM-ELECTRIC PLANT ONE-LINE DIAGRAMS	1 of 2

I. DESCRIPTION

This schedule is used to collect one-line diagrams to illustrate the station data within a steam-electric plant.

II. GENERAL INFORMATION

A. This schedule shall be submitted by electric utilities for all plants with a steam-electric generating capacity of 25 megawatts or greater.

B. This schedule shall be submitted with completed diagrams on the initial submission for a plant. Thereafter, it shall be submitted annually with completed diagrams showing changes that have occurred during the reporting period, or indicating that no changes have occurred.

III. DETAILED INSTRUCTIONS

The following data field~~s~~ ~~}~~-data field instructions are cross-referenced to the corresponding schedule layout by data field number:

Data Field Number	Instructions
1 (Key)	Plant Code (N5): Enter the plant code, from the Register of Data Standards, IDPLNT.
2	Plant Name (A35): Enter the plant name, from the Register of Data Standards, IDPLNT.

Note: A "1" must be entered in one and only one of the following data fields (3, 4 or 5) below:

3	Indicator Initial Submission (N1): Enter "1" if this is the initial submission of data for the plant identified in data field 1 above; if not, enter "0". (INYONO)
4	Indicator Annual Submission With Changes (N1): Enter "1" if this is an annual submission of data with changes to previously submitted information; if not, enter "0". (INYONO)
5	Indicator Annual Submission Without Changes (N1): Enter "1" if this is an annual submission of data without changes from that previously submitted data (in this case the material associated with data field 6 below may be omitted); if not, enter "0". (INYONO)
6	One-Line Diagrams: Using the provided diagrams, illustrate the plant operating configurations by inserting the identification codes (respondent commonly used designation) for all stacks, flue-gas cleaning equipment, boilers and generators which have been used in reporting this equipment to the FPC.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 0857	STEAM-ELECTRIC PLANT ONE-LINE DIAGRAMS	2 of 2

Data Field Number	Instructions
6 (cont'd)	In the case of boilers and generators, the code is to be presented in combination with the generating group code identifying the group the boiler or generator is a part of. The order is to be: Generating Group Code Boiler or Generator Code

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTION: SCHEDULE 0000	FOOTNOTES TO FPC PUBLIC USE SCHEDULES	1 of 2

I. DESCRIPTION

This schedule is used to collect the text for all footnote references for a respondent submission.

II. GENERAL INFORMATION

A. This schedule shall be submitted when applicable by all respondents for reporting footnotes to FPC Public Use Schedules.

B. The footnote reference numbers must be unique within a particular submission.

C. The respondent has to indicate two major types of footnotes.

1. General Footnote - The General Footnote can refer to either the entire schedule or one data field on the schedule, i.e. all data which is reported for data field 5 on the schedule not just one specific value for data field 5.

2. Specific Footnote - The Specific Footnote can refer either to an entire logical entry, i.e. group of related data which separates as an entity on a schedule or a data item within the logical entry.

The following entries are provided as an example:

Type Footnote	Data Field 2 (Footnote No.)	Data Field 3 (Ref. ID)
1. General Footnote		
a. Entire schedule	001	GEN
b. All data values for data field 5 entries on this schedule	001	005
All data values for data field 6 entries on this schedule	001	006
2. Specific Footnote		
a. Entire logical entry	002	GEN
b. Data item entry	002	004
	002	006
	002	008

III. DETAILED INSTRUCTIONS

The following data field-by-data field instructions are cross-referenced to the corresponding schedule layout by data field number.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTION: SCHEDULE 0000	FOOTNOTES TO FPC PUBLIC USE SCHEDULES	2 of 2

Data Field Number	Instructions
1 (Key)	Schedule Number (N4): Enter the number of the schedule on which the footnote reference number was assigned, e.g., 0501 or 0505.
2 (Key)	Footnote Number (N3): Enter the unique footnote reference number from 001-999 for each particular submission.
3 (Key)	Reference Identification (A3): Enter "GEN" for Type 1a and 2a footnotes, i.e., footnotes that apply to the entire schedule (or to an entire logical entry) or enter the appropriate data field number for the specific data field value being footnoted (Type 1b or 2b).
4 (Key)	Line Sequence Number (N2): Enter 01, 02 etc., for each successive line of text.
5 (Key)	System Code (N6): This data field applies only to Electric respondents reporting data by system. Enter the six digit number code for the system, from the Register of Data Standards, IDSYST.
6 (Key)	Plant ID (N5): This data field applies only to Electric respondents reporting data by plant. Enter the five digit numeric code for the plant, from the Register of Data Standards, IDPLNT.
7 (Key)	Project Development Code (A5): This data field applies only to Electric respondents reporting data by license projects. Enter the five digit numeric code for the license project, from the Register of Data Standards, IDLPRJ.
8	Text (A72): Enter the text of the footnote. Use successive lines as required for text. Repeat Data Fields 1-3, 5 or 6 as applicable, and increment Data Field 4 (Line Sequence Number) by 1.

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RIS	FEDERAL POWER COMMISSION REGULATORY INFORMATION SYSTEM	
DETAILED INSTRUCTIONS: SCHEDULE 1000	SUPPORTING DOCUMENTATION	1 of 1

I. DESCRIPTION

This schedule is used to collect schedule related supporting documentation not required by the Public Use Schedules.

II. GENERAL INFORMATION

A. This schedule shall be submitted by any Federal Power Commission respondent who desires to provide supportive documentation or any additional information relating to the Public Use Schedules.

B. This schedule shall be completed only as deemed necessary by the respondent or where specifically requested by detailed instructions for other schedules.

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDAQCR

DATA ITEM LIST TITLE: ID, AIR QUALITY CONTROL REGIONS

DATA ITEM LIST DESCRIPTION: IDENTIFIES AIR QUALITY CONTROL REGIONS OF THE US AS DESIGNATED BY THE ENVIRONMENTAL PROTECTION AGENCY.

DATA ITEM LIST SOURCE: US ENVIRONMENTAL PROTECTION AGENCY

DATA ITEM LIST	CODE	ABBREVIATION
ALABAMA AND TOMBIGBEE RIVERS	1	
COLUMBUS-PHENIX CITY	2	
EAST ALABAMA	3	
METROPOLITAN BIRMINGHAM	4	
MOBILE-PENSACOLA-PANAMA CITY-SOUTHERN MISSISSIPPI	5	
SOUTHEAST ALABAMA	6	
TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS	7	
COOK INLET	8	
NORTHERN ALASKA	9	
SOUTH CENTRAL ALASKA	10	
SOUTHEASTERN ALASKA	11	
ARIZONA-NEW MEXICO SOUTHERN BORDER	12	
CLARK-MOHAVE	13	
FOUR CORNERS	14	
PHOENIX-TUCSON	15	
CENTRAL ARKANSAS	16	
METROPOLITAN FORT SMITH	17	
METROPOLITAN MEMPHIS	18	
MONROE-EL DORADO	19	
NORTHEAST ARKANSAS	20	
NORTHWEST ARKANSAS	21	
SHREVEPORT-TEXARKANA-TYLER	22	
GREAT BASIN VALLEY	23	
METROPOLITAN LOS ANGELES	24	
NORTH CENTRAL COAST	25	
NORTH COAST	26	
NORTHEAST PLATEAU	27	
SACRAMENTO VALLEY	28	
SAN DIEGO	29	
SAN FRANCISCO BAY AREA	30	
SAN JOAQUIN VALLEY	31	
SOUTH CENTRAL COAST	32	

(CONTINUED)

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDCLDS

DATA ITEM LIST TITLE: ID, COAL DISTRICTS

DATA ITEM LIST DESCRIPTION: IDENTIFIES COAL AND LIGNITE PRODUCING COUNTRIES AND STATES OF THE US.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
EASTERN PENNSYLVANIA	01	
WESTERN PENNSYLVANIA	02	
NORTHERN WEST VIRGINIA	03	
OHIO	04	
MICHIGAN	05	
PANHANDLE	06	
SOUTHERN NO. 1	07	
SOUTHERN NO. 2	08	
WEST KENTUCKY	09	
ILLINOIS	10	
INDIANA	11	
IOWA	12	
SOUTHEASTERN	13	
ARKANSAS-OKLAHOMA	14	
SOUTHWESTERN	15	
NORTHERN COLORADO	16	
SOUTHERN COLORADO	17	
NEW MEXICO	18	
WYOMING	19	
UTAH	20	
NORTH DAKOTA-SOUTH DAKOTA	21	
MONTANA	22	
WASHINGTON	23	
PENNSYLVANIA ANTHRACITE	24	
POLAND	25	
SOUTH AFRICA	30	
AUSTRALIA	35	
CANADA	40	

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDCNSR

DATA ITEM LIST TITLE: ID, US CENSUS REGIONS

DATA ITEM LIST DESCRIPTION: IDENTIFIES SUBDIVISIONS OF THE US DESIGNATED AS CENSUS REGIONS FOR REPORTING AND SUMMARIZING OF CENSUS DATA.

DATA ITEM LIST SOURCE: US BUREAU OF CENSUS

DATA ITEM LIST	CODE	ABBREVIATION
NEW ENGLAND	01	
MIDDLE ATLANTIC	02	
EAST NORTH CENTRAL	03	
WEST NORTH CENTRAL	04	
SOUTH ATLANTIC	05	
EAST SOUTH CENTRAL	06	
WEST SOUTH CENTRAL	07	
MOUNTAIN	08	
PACIFIC	09	
NON-CONTIGUOUS	10	
HAWAII	11	
ALASKA	12	

PAGE: IDCNSR-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDCNTY

DATA ITEM LIST TITLE: ID, COUNTIES OF THE US.

DATA ITEM LIST DESCRIPTION: IDENTIFIES THE COUNTIES OF THE US. COUNTIES, AS FIRST ORDER SUBDIVISIONS OF MOST STATES, ARE CONSIDERED SYNONYMOUS WITH PARISH, BOROUGH, OR CENSUS DIVISION USED IN OTHERS. FOR RIS USE, THIS LIST IS SUPPLEMENTED WITH NATURAL GAS OFFSHORE AREAS.

DATA ITEM LIST SOURCE: FIPS PUB 6-2,SEP 15, 1973 AND FPC

DATA ITEM LIST	CODE	ABBREVIATION
OFFSHORE, STATE	00990	990
OFFSHORE, FEDERAL	00995	995
OFFSHORE, GENERAL	00999	999
OFFSHORE, ZONE 1, LOUISIANA	22991	LA991
OFFSHORE, ZONE 2, LOUISIANA	22992	LA992
OFFSHORE, ZONE 3, LOUISIANA	22993	LA993
OFFSHORE, ZONE 4, LOUISIANA	22994	LA994

PAGE: IDCNTY-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDLDCA

DATA ITEM LIST TITLE: ID, POWER LOAD CONTROL AREAS

DATA ITEM LIST DESCRIPTION: IDENTIFIES ELECTRIC POWER LOAD CONTROL AREAS OF THE US.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
CENTRAL MAINE POWER COMPANY	001	
CONNECTICUT VALLEY ELECTRIC EXCHANGE	002	CONVEX
CONSOLIDATED EDISON COMPANY OF NEW YORK	003	
NIAGARA MOHAWK POWER COMPANY	004	
NEW BRUNSWICK ELECTRIC POWER COMMISSION	005	
ONTARIO HYDRO	006	
RHODE ISLAND-EASTERN MASSACHSETTS-VERMONT ELECTRIC CONTROL	007	REMVEC
SAQUENAY POWER SYSTEM	008	
THE SOUTHERN COMPANY	008	
TAPOCO, INC	009	
PENNSYLVANIA-NEW JERSEY-MARYLAND INTERCONNECTION	009	PJM
SAVANNAH ELECTRIC POWER CO	010	
TENNESSEE VALLEY AUTHORITY	011	TVA
BIG RIVERS	012	
FLORIDA POWER CORP	013	
TAMPA ELECTRIC CO	014	
FLORIDA POWER & LIGHT CO	015	
VERO BEACH	016	
JACKSONVILLE ELECTRIC AUTHORITY	017	
ORLANDO UTILITIES COMMISSION	018	
SOUTH CAROLINA PUBLIC SERVICE AUTH	019	
SOUTH CAROLINA ELECTRIC & GAS CO	020	
DUKE POWER CO	021	
CAROLINA POWER & LIGHT CO	022	
YADKIN, INC	023	
VIRGINIA ELECTRIC POWER CO	024	
ALLEGHENY POWER SYSTEM	025	
AMERICAN ELECTRIC POWER SYSTEM	026	
KENTUCKY UTILITIES CO	027	
OHIO EDISON SYSTEM	028	
SO INDIANA GAS & ELECTRIC	029	

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDLPRJ

DATA ITEM LIST TITLE: ID, LICENSED PROJECTS/DEVELOPMENTS

DATA ITEM LIST DESCRIPTION: IDENTIFIES FPC LICENSED PROJECTS AND ASSOCIATED DEVELOPMENTS. THE PROJECT IDENTIFICATION IS GIVEN FIRST, FOLLOWED BY THE DEVELOPMENT. THE CODE FORMAT IS PPPPD WHERE P=NUMERIC PROJECT CODE AND D=ALPHABETIC DEVELOPMENT SUFFIX.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
KERR	0005	
KERR FLATHEAD LAKE	0005A	
GREEN ISLAND PROJECT	0013	
GREEN ISLAND PROJECT GREEN ISLAND	0013A	
TWIN FALLS HYDRO PRO	0018	
TWIN FALLS HYDRO PRO TWIN FALLS RESERVOIR	0018A	
SODA	0020	
SODA SODA	0020A	
BIG CREEK	0067	
BIG CREEK POWERHOUSE SHAVER LAKE	0067A	
BIG CREEK POWERHOUSE FLORENCE LAKE RESER	0067B	
POTTER VALLEY	0077	
POTTER VALLEY LAKE PILLSBURY	0077A	
POTTER VALLEY VAN ARSDALE RESER	0077B	
MITCHELL DAM	0082	
MITCHELL DAM MITCHELL DAM	0082A	
KERCKHOFF	0096	
KERCKHOFF KERCKHOFF LAKE	0096A	
CHIPPEWA RESERVOIR	0108	
CHIPPEWA RESERVOIR	0108A	

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDMFEQ

DATA ITEM LIST TITLE: ID, PLANT EQUIPMENT MANUFACTURERS

DATA ITEM LIST DESCRIPTION: IDENTIFIES THE MANUFACTURERS OF VARIOUS TYPES OF ELECTRIC POWER PLANT EQUIPMENT.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
UNSPECIFIED	000000	UNSP
AMERICAN AIR FILTER COMPANY,INC.	000010	AAFC
ALLIS-CHALMERS	000020	AC
ASSOCIATED ELECTRIC	000030	AE
ALCO	000040	AL
ATM	000050	AM
AMERICAN STANDARD,INC.	000060	AMST
AMERICAN LOCOMOTIVE	000070	AR
ASEA	000080	AS
ATLAS	000090	AT
THE BABCOCK AND WILCOX CO.	000100	BCW
BROWN-BOVERI	000110	BB
BELCO POLLUTION CONTROL CORP.	000120	BELC
BALDWIN-HAMILTON	000130	BH
B.L.H.	000140	BL
BROS	000150	BR
BUSCH-SULZER	000160	BS
BRUSH	000170	BU
BUELL ENGINEERING COMPANY,INC.	000180	BUEL
BABCOCK-WILCOX	000190	BW
CAT	000200	CA
COOPER BESSEMER	000210	CB
CECO	000220	CC
CHICAGO PNEUMATIC	000230	CD
COMBUSTION ENGINEERING INC.	000240	CE
CROCKER	000250	CK
CLEVELAND	000260	CL
CONNELLY	000270	CO
RESEARCH-COTTRELL,INC.	000280	COTT
CAP	000290	CP
CATERPILLAR	000300	CR
CAR	000310	CR
CURTIS-TERRY	000320	CU
DELAVEL	000330	DB
DIESEL ENGINE CO	000340	DE

(CONTINUED)

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDNPSR

DATA ITEM LIST TITLE: ID, NATIONAL POWER SURVEY REGION

DATA ITEM LIST DESCRIPTION: IDENTIFIES SUBDIVISIONS OF THE US DESIGNATED NATIONAL POWER SURVEY REGIONS BY THE FPC.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
NORTHEAST	1	NE
EAST CENTRAL	2	EC
SOUTHEAST	3	SE
WEST CENTRAL	4	WC
SOUTH CENTRAL	5	SC
WEST	6	W

PAGE: IDNPSR-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDPADD

DATA ITEM LIST TITLE: ID, PETROLEUM ADM FOR DEFENSE DIST

DATA ITEM LIST DESCRIPTION: IDENTIFIES SUBDIVISIONS OF THE US DESIGNATED AS PETROLEUM ADMINISTRATION FOR DEFENSE DISTRICTS.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
DISTRICT 1 (INCLUDES: CT,DE,DC,FL, GA,ME,MD,MA,NH,NJ,NY,NC,PA,RI,SC, VT,VA,WV)	1	
DISTRICT 2 (INCLUDES: IL,IN,IA,KS, KY,MI,MN,MO,NE,ND,OH,OK,SD,TN,WI)	2	
DISTRICT 3 (INCLUDES: AL,AR,LA,MS, NM,TX)	3	
DISTRICT 4 (INCLUDES: CO,ID,MT,UT, WY)	4	
DISTRICT 5 (INCLUDES: AK,AZ,CA,HI, NV,OR,WA)	5	

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDPLNT

DATA ITEM LIST TITLE: ID, ELECTRIC POWER PLANTS

DATA ITEM LIST DESCRIPTION: IDENTIFIES ELECTRIC POWER GENERATING PLANTS REPORTING TO THE FPC.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
(TO BE FURNISHED BY BUREAU OF POWER)		

PAGE: IDPLNT-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDPPAR

DATA ITEM LIST TITLE: ID, PRIMARY PLANNING AREAS

DATA ITEM LIST DESCRIPTION: IDENTIFIES SUBDIVISIONS OF THE US DESIGNATED AS ELECTRIC POWER PRIMARY PLANNING AND OPERATING AREAS BY THE FPC.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
AMERICAN ELECTRIC POWER SYSTEM	1	AEP
ALLEGHENY POWER SYSTEM	2	APS
CENTRAL AREA POWER COORDINATION GROUP	3	CAPCO
CALIFORNIA POWER POOL	4	CAPP
CINCINNATI-COLUMBUS-DAYTON POOL	5	CCD
COLORADO POWER POOL	6	COLOPP
FLORIDA (SERC SUBREGION)	7	FLA
ILLINOIS-MISSOUI POOL	8	IMP
KENTUCKY-INDIANA POWER POOL	9	KIP
MID-AMERICA POWER POOL	10	MAPP
MISSOURI-KANSAS POOL	11	MOKAN
MIDDLE SOUTH UTILITIES SYSTEM	12	MSU
NEW ENGLAND POWER POOL (NPCC SUBREGION)	13	NEPOOL
NEW MEXICO POWER POOL	14	NMPP
NORTHWEST POWER POOL	15	NWPP
NEW YORK POWER POOL (NPCC SUBREGION)	16	NYPP
PENNSYLVANIA-NEW JERSEY-MARYLAND INTERCONNECTION	17	PJM
PACIFIC NORTHWEST COORDINATION AREA	18	PNCA
ROCKY MOUNTAIN POWER AREA	19	RMPA
SOUTH CENTRAL ELECTRIC COMPANIES	20	SCEC
SOUTHERN COMPANY SYSTEM (SERC SUBREGION)	21	SOCO
TENNESSEE VALLEY AUTHORITY (SERC SUBREGION)	22	TVA
VIRGINIA-CAROLINAS (SERC SUBREGION)	23	VACARS
WESTERN ENERGY SUPPLY AND TRANSMISSION ASSOCIATES	24	WEST
WISCONSIN-UPPER MICHIGAN SYSTEMS	25	WUMS

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDPWSA

DATA ITEM LIST TITLE: ID, POWER SUPPLY AREAS

DATA ITEM LIST DESCRIPTION: IDENTIFIES SUBDIVISIONS OF THE US DESIGNATED AS POWER SUPPLY AREAS BY THE FPC.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
(NAMES NOT YET ASSIGNED TO AREAS)	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
	25	
	26	
	27	
	28	
	29	
	30A	
	30B	
	31A	
	31B	
	32A	
	32B	

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDREGN

DATA ITEM LIST TITLE: ID, FPC REGIONS

DATA ITEM LIST DESCRIPTION: IDENTIFIES SUBDIVISIONS OF THE US DESIGNATED REGIONS BY THE FPC.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
NEW YORK	1	N
ATLANTA	2	A
CHICAGO	3	C
FORT WORTH	4	F
SAN FRANCISCO	5	S

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDRRCL

DATA ITEM LIST TITLE: ID, REGIONAL RELIABILITY COUNCILS

DATA ITEM LIST DESCRIPTION: IDENTIFIES SUBDIVISIONS OF THE US DESIGNATED AS REGIONAL RELIABILITY COUNCIL AREAS.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
ALASKA SYSTEMS COORINATING COUNCIL	1	ASCC
EAST CENTRAL AREA RELIABILITY COORDINATION AGREEMENT	2	ECAR
ELECTRIC RELIABILITY COUNCIL OF TEXAS	3	ERCOT
MID ATLANTIC AREA COUNCIL	4	MAAC
MID AMERICA INTERPOOL NETWORK	5	MAIN
MID CONTINENT AREA RELIABILITY COORDINATION AGREEMENT	6	MARCA
NATIONAL ELECTRIC RELIABILITY COUNCIL	7	NERC
NORTHEAST POWER COORDINATING COUNCIL	8	NPCC
SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL	9	SERC
SOUTHWEST POWER POOL	10	SWPP
WESTERN SYSTEMS COORDINATING COUNCIL	11	WSCC

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDSTAT

DATA ITEM LIST TITLE: ID, STATES OF THE UNITED STATES

DATA ITEM LIST DESCRIPTION: IDENTIFIES THE 50 STATES, THE DISTRICT OF COLUMBIA, AND THE OUTLYING AREAS OF THE US, ALL OF WHICH ARE CONSIDERED FIRST ORDER SUBDIVISIONS OF THE US.

DATA ITEM LIST SOURCE: FIPS PUB 5-1, JUN 15, 1970

DATA ITEM LIST	CODE	ABBREVIATION

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDSYST

DATA ITEM LIST TITLE: ID, ELECTRIC POWER SYSTEMS

DATA ITEM LIST DESCRIPTION: IDENTIFIES ELECTRIC POWER SYSTEMS REPORTED TO THE FPC.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST (TO BE FURNISHED BY BUREAU OF POWER)	CODE	ABBREVIATION

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: IDWTRR

DATA ITEM LIST TITLE: ID, WATER RESOURCE REGIONS

DATA ITEM LIST DESCRIPTION: IDENTIFIES MAJOR RIVER BASINS OF THE US.

DATA ITEM LIST SOURCE: WATER RESOURCE COUNCIL

DATA ITEM LIST	CODE	ABBREVIATION
NEW ENGLAND	01	
MID-ATLANTIC	02	
SOUTH ATLANTIC-GULF	03	
GREAT LAKES	04	
OHIO	05	
TENNESSEE	06	
UPPER MISSISSIPPI	07	
LOWER MISSISSIPPI	08	
SOURIS-RED RAINY	09	
MISSOURI (MISSOURI BASIN)	10	
ARKANSAS-WHITE-RED	11	
TEXAS - GULF	12	
RIO GRANDE	13	
UPPER COLORADO	14	
LOWER COLORADO	15	
GREAT BASIN	16	
PACIFIC NORTHWEST (COLUMBIA-NORTH PACIFIC)	17	
CALIFORNIA (SOUTH PACIFIC)	18	
ALASKA	19	
HAWAII	20	
PUERTO RICO	21	

PAGE: IDWTRR-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TMMOYR

DATA ITEM LIST TITLE: TIME, MONTH OF YEAR

DATA ITEM LIST DESCRIPTION: IDENTIFIES THE MONTHS OF YEAR ACCORDING TO THE CIVIL(GREGORIAN) CALENDAR. FOR RIS USE, AN "UNSPECIFIED" MONTH ENTRY HAS BEEN ADDED.

DATA ITEM LIST SOURCE: FIPS PUB 4, NOV 1, 1968

DATA ITEM LIST	CODE	ABBREVIATION
UNSPECIFIED	00	UNS
JANUARY	01	JAN
FEBRUARY	02	FEB
MARCH	03	MAR
APRIL	04	APR
MAY	05	MAY
JUNE	06	JUN
JULY	07	JUL
AUGUST	08	AUG
SEPTEMBER	09	SEP
OCTOBER	10	OCT
NOVEMBER	11	NOV
DECEMBER	12	DEC

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REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYBLFR

DATA ITEM LIST TITLE: TYPE OF BOILER FIRING

DATA ITEM LIST DESCRIPTION: INDICATES THE METHOD OF FIRING STEAM BOILERS BY TYPE OF FUEL.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
UNSPECIFIED	00	UNSP
CYCLONE	01	CYCL
FLUIDIZED BED	02	FLUI
GAS, FRONT FIRING	03	GFRO
GAS, OPPOSED FIRING	04	GOPP
GAS, TANGENTIAL FIRING	05	GTAN
NUCLEAR FISSION	06	NUCF
OTHER STOKER	07	OSTO
PULVERIZED COAL, UNSPECIFIED	10	PCUN
PULVERIZED COAL, FRONT FIRING	11	PCFR
PULVERIZED COAL, OPPOSED FIRING	12	PCOP
PULVERIZED COAL, TANGENTIAL FIRING	13	PCTA
RESIDUAL OIL, FRONT FIRING	20	RFRO
RESIDUAL OIL, OPPOSED FIRING	21	ROPP
RESIDUAL OIL, TANGENTIAL FIRING	22	RTAN
SPREADER STOKER	30	SPRE
OTHER FIRING METHOD	99	OTHE

PAGE: TYBLFR-1

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYBLOL

DATA ITEM LIST TITLE: TYPE OF BOILER OPERATING LEVEL

DATA ITEM LIST DESCRIPTION: INDICATES THE OPERATING LEVEL OR STATUS OF A STEAM BOILER.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
CONTINUOUS NOMINAL FULL LOAD	1	
LESS THAN FULL BUT OVER 75% LOAD	2	
50% TO 75% LOAD	3	
UNDER 50% LOAD	4	
NO-LOAD HOT STANDBY	5	
NO-LOAD COLD STANDBY	6	
OTHER	9	

PAGE: TYBLOL-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYBSIN

DATA ITEM LIST TITLE: TYPE OF BUSINESS INTEREST

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPE OF BUSINESS INTEREST OR RELATIONSHIP.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
OWNER OPERATOR	01	OO
OWNER LESSOR	02	OL
LESSEE OPERATOR	03	LO
LESSEE LESSOR	04	LL
ASSOCIATED COMPANY	05	AC
SITE OWNER	06	SO

PAGE: TYBSIN-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYCBBP

DATA ITEM LIST TITLE: TYPE OF COMBUSTIBLE BY-PRODUCT

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPES OF BY-PRODUCTS PRODUCED BY COMBUSTION OF BOILER FUELS.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
FLYASH	1	
BOTTOM ASH	2	
ELEMENTAL SULFUR	3	
SULFURIC ACID	4	
SULFUR DIOXIDE	5	
OTHER SULFUR PRODUCTS	6	
OTHER PRODUCTS	9	

PAGE: TYCBBP-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYCHEM

DATA ITEM LIST TITLE: TYPE OF CHEMICAL

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPES OF CHEMICALS.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
PHOSPHATE	1	
CAUSTIC SODA	2	
HYDRAZINE	3	
LIME	4	
ALUMINUM	5	
CHLORINE	6	
OTHER	9	

PAGE: TYCHEM-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYCLCD

DATA ITEM LIST TITLE: TYPE OF CONDENSER COOLING

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPE OF COOLING USED FOR ELECTRIC POWER PLANT STEAM CONDENSERS.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
COMBINATION	01	CB
COOLING POND	02	CP
CIRCULATING POND	03	CRP
DRY COOLING TOWER	04	DCT
EVAPORATIVE	05	EVP
ONCE THROUGH	06	OT
ONCE-THROUGH, FRESH	07	OTF
ONCE-THROUGH, SALINE	08	OTS
WET COOLING TOWER	10	WCT
OTHER	99	OTH

PAGE: TYCLCD-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYCLGN

DATA ITEM LIST TITLE: TYPE OF GENERATOR COOLANT

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPE OF COOLANT USED BY AN ELECTRIC POWER GENERATOR.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
AIR	1	A
HYDROGEN	2	H
WATER	3	W
HELIUM (GAS OR LIQUID)	4	L
NITROGEN (GAS OR LIQUID)	5	N
OTHER	9	O

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYCONS

DATA ITEM LIST TITLE: TYPE OF PLANT CONSTRUCTION

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPE OF POWER PLANT CONSTRUCTION.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
CONVENTIONAL	1	C
SEMI-OUTDOOR	2	S
FULL OUTDOOR	3	F

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYDMIN

DATA ITEM LIST TITLE: TYPE OF DEMAND INTERVAL

DATA ITEM LIST DESCRIPTION: INDICATES THE PERIOD OF TIME DURING WHICH ELECTRIC ENERGY FLOW IS AVERAGED TO DETERMINE DEMAND.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
INSTANTANEOUS	00	INST
15-MINUTE	15	15MN
30-MINUTE	30	30MN
60-MINUTE	60	60MN

PAGE: TYDMIN-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYFGCE

DATA ITEM LIST TITLE: TYPE OF FLUEGAS CLEANING EQUIPMENT

DATA ITEM LIST DESCRIPTION: INDICATES THE VARIOUS TYPES OF FLUE GAS CLEANING EQUIPMENT USED BY ELECTRIC POWER PLANTS WHICH BURN FOSSIL FUELS.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
ELECTROSTATIC	01	ELEC
COMBINATION MECHANICAL-ELECTRIC PRECIPITATORS	02	COMB
DESULFURIZATION SYSTEM	03	DESF
OTHER TYPE EQUIPMENT	04	OTHE
MECHANICAL,NOT OTHERWISE SPECIFIED	05	MECH
MECHANICAL,GRAVITATIONAL OR BAFFLED CHAMBER	06	GRAV
MECHANICAL,SINGLE CYCLONE CONVENTIONAL REVERSE FLOW, TANGENTIAL INLET	07	SCTA
MECHANICAL,SINGLE CYCLONE, CONVENTIONAL REVERSE FLOW, AXIAL INLET	08	SCAX
MECHANICAL,MULTIPLE CYCLONE, CONVENTIONAL REVERSE FLOW, TANGENTIAL INLET	09	MCTA
MECHANICAL,MULTIPLE CYCLONE, CONVENTIONAL REVERSE FLOW, AXIAL INLET	10	MCAX
MECHANICAL, STRAIGHT-THROUGH-FLOW CYCLONES	11	CYCL
MECHANICAL, IMPELLOR COLLECTOR	12	IMPE
MECHANICAL, WET COLLECTOR,VENTURE	13	VENT
MECHANICAL, WET COLLECTOR,OTHER	14	WETC
MECHANICAL, BAGHOUSE (FABRIC COLLECTOR)	15	BAGH
MECHANICAL, OTHER	16	MOTH

(CONTINUED)

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYFUEL

DATA ITEM LIST TITLE: TYPE OF FUEL

DATA ITEM LIST DESCRIPTION: INDICATES THE SUBSTANCE OR MATERIAL USED AS A SOURCE OF HEAT OR POWER.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
UNSPECIFIED	00	UNSP
WOOD,REFUSE OR WASTES	01	WD
FOSSIL FUEL, UNSPECIFIED	09	FFUN
COAL,UNSPECIFIED	10	CU
COAL,BITUMINOUS	11	CBIT
COAL,SUB-BITUMINOUS	12	CSUB
COAL,ANTHRACITE	13	CANT
COAL,LIGNITE	14	CLIG
PETROLEUM COKE	15	CPC
COAL,SOLVENT REFINED	16	CSR
GAS,UNSPECIFIED	20	GU
GAS,NATURAL	21	GN
GAS,LIQUEFIED NATURAL	23	GLN
GAS,REFINERY	24	GR
GAS,BLAST FURNACE	25	GBF
GAS,COKE OVEN	26	GCO
GAS,SEWAGE	27	GSW
GAS,SYNTHETIC	28	SNG
GAS,LIQUID PETROLEUM	29	LPG
OIL,FUEL,UNSPECIFIED	30	OFU
OIL,FUEL OIL-2	32	OF2
OIL,FUEL OIL-4	34	OF4
OIL,FUEL OIL-5	35	OF5
OIL,FUEL OIL-6	36	OF6
OIL,FUEL OIL, HIGH VISCOSITY	37	OHV
OIL,DRY BKOM	41	OBK
OIL,LIQUID PROPANE GAS	42	OLPG
OIL,CRUDE	43	OCRU
OIL,TOPPED CRUDE	44	OTOP
OIL,JET FUEL	45	OJF
OIL,KEROSENE	46	OKER
OIL,REREFINED MOTOR	47	RMO
OIL,DIESEL	48	DSL
NUCLEAR	50	NU
GEOTHERMAL	60	GT

(CONTINUED)

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYOUTC

DATA ITEM LIST TITLE: TYPE OF POWER OUTAGE CAUSE

DATA ITEM LIST DESCRIPTION: INDICATES THE CAUSES OF ELECTRIC POWER OUTAGES BY TYPE OF POWER GENERATING EQUIPMENT.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
BOILER - PLANNED OUTAGE	001	
BOILER - MAINTENANCE OUTAGE	002	
BOILER - GENERAL CODE	100	
BOILER - WATER WALLS	101	
BOILER - GENERATING TUBES	102	
BOILER - SUPERHEATER	103	
BOILER - REHEATER - FIRST	104	
BOILER - REHEATER - SECOND	105	
BOILER - ECONOMIZER	106	
BOILER - AIR PREHEATER - TUBULAR	107	
BOILER - AIR PREHEATER - REGENERATIVE	108	
BOILER - INDUCED DRAFT FANS	109	
BOILER - FORCED DRAFT FANS	110	
BOILER - RECIRCULATING FANS	111	
BOILER - DESUPERHEATERS AND ATTEMPERATORS	112	
BOILER - BY-PASS DAMPERS	113	
BOILER - FURNACE REFRACTORY	114	
BOILER - SAFETY VALVES	115	
BOILER - STEAM VALVES AND PIPING	116	
BOILER - VALVES AND PIPING - FEEDWATER AND BLOWDOWN	117	
BOILER - GAGE GLASSES	118	
BOILER - SLAG AND FLY ASH DISPOSAL SYSTEM	119	
BOILER - STACK	120	
BOILER - PULVERIZERS	121	
BOILER - CYCLONES	122	
BOILER - FUEL HANDLING EQUIPMENT (GAS, OIL, COAL, ETC)	123	
BOILER - FIRESIDE CLEANING	124	
BOILER - ACID CLEANING	125	
BOILER - BOILER CASING BREECHING AND DUCTS	126	

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REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYOWNA

DATA ITEM LIST TITLE: TYPE OF OWNERSHIP/AUTHORITY

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPE OF OWNERSHIP OR LEVEL OF GOVERNMENTAL AUTHORITY.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
MUNICIPAL (OR CITY)	1	M
TOWNSHIP	2	T
BOROUGH	3	B
COUNTY (OR PARISH)	4	C
TERRITORY	5	R
STATE (OR DISTRICT)	6	S
FEDERAL	7	F
PRIVATE	8	P
OTHER	9	O

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYOWNS

DATA ITEM LIST TITLE: TYPE OF OWNERSHIP

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPES OF OWNERSHIP OF UTILITIES.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATIO
FEDERAL	1	FEDL
PRIVATE	2	PRIV
COOPERATIVE	3	COOP
INDUSTRIAL	4	INDU
POWER DISTRICT AND STATE PROJECT	5	PDSP
MUNICIPAL	6	MUNI

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYPLPW

DATA ITEM LIST TITLE: TYPE ELECTRIC PLANT/MOTIVE POWER

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPES OF ELECTRIC POWER PLANTS AS CHARACTERIZED BY MOTIVE POWER.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
STEAM, ELECTRIC	10	ST
STEAM, COMBINED CYCLE	11	CS
GAS TURBINE	30	GT
GAS TURBINE, OPEN CYCLE	31	GO
GAS TURBINE, CLOSED CYCLE	32	GC
GAS TURBINE, COMBINED CYCLE	33	CG
UNSPECIFIED TURBINE, COMBINED CYCLE	39	CC
INTERNAL COMBUSTION ENGINE, UNSPECIFIED CYCLE	40	IC
INTERNAL COMBUSTION ENGINE, 2-CYCLE	41	I2
INTERNAL COMBUSTION ENGINE, 4-CYCLE	42	I4
HYDROELECTRIC,CONVENTIONAL	81	HY
HYDROELECTRIC, PUMPED STORAGE	82	HP
OTHER	99	OT

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYPROJ

DATA ITEM LIST TITLE: TYPE OF HYDROELECTRIC PROJECT

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPE OF HYDROELECTRIC PROJECT OPERATION BY FEDERAL EXECUTIVE DEPARTMENT OR OTHERS, OR LICENSED BY THE FPC.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
FEDERAL, TVA	10	TVA
FEDERAL, USBR	11	USBR
FEDERAL, USCE	12	USCE
FEDERAL, OTHER	19	FOTH
LICENSED	20	LI
OTHER	99	OTH

PAGE: TYPROJ-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYPUMP

DATA ITEM LIST TITLE: TYPE OF PUMP CONSTRUCTION

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPE OF CONSTRUCTION OF MOTOR-DRIVEN PUMPS.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
CENTRIFUGAL	1	
MIXED FLOW	2	
AXIAL	3	

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYSTOS

DATA ITEM LIST TITLE: TYPE OF OPERATIONAL STATUS

DATA ITEM LIST DESCRIPTION: INDICATES PLANT OR EQUIPMENT STATUS BY DEGREE OF OPERATION OR OPERATIONAL AVAILABILITY.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
FULLY OPERATIONAL (IN COMMERCIAL SERVICE)	1	O
STANDBY OR RESERVE	2	S
RETIRED	3	R
TESTING (NOT IN COMMERCIAL SERVICE)	4	T

PAGE: TYSTOS-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYSTPL

DATA ITEM LIST TITLE: TYPE OF PLANT STATUS

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPES OF PLANT OR EQUIPMENT STATUS WITH RESPECT TO CONSTRUCTION, MODIFICATION OR DISPOSITION.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
DISMANTLED	1	DISM
REMOVED FROM SERVICE	2	REMO
SOLD	3	SOLD
LEASED	4	LEAS
PLANNED MAJOR MODIFICATION	5	PMMD
UNPLANNED MAJOR MODIFICATION	6	UPMM
PLANNED NEW PLANT	7	PNPL
NEW PLANT UNDER CONSTRUCTION	8	NPUC
NEW PLANT IN COMMERCIAL SERVICE	9	NPCS

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYTRAN

DATA ITEM LIST TITLE: TYPE OF TRANSPORTATION MODE

DATA ITEM LIST DESCRIPTION: INDICATES THE MODE OF TRANSPORT USUALLY USED FOR UTILITY FUELS. WHERE AN INTERMEDIATE STORAGE OR TRANSSHIPMENT POINT IS INVOLVED, A DOUBLE CODE OR ABBREVIATION IS USED, THE FIRST FOR THE INITIAL MODE, THE SECOND FOR THE FINAL MODE.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
BARGE, UNSPECIFIED TYPE	10	B
BARGE, UNIT	12	A
SHIP, UNSPECIFIED TYPE	20	H
COLLIER	23	V
OIL TANKER	24	W
SHIP, LNG	25	L
RAIL, NON-UNIT TRAIN	31	R
RAIL, UNIT TRAIN	32	U
RAIL, TANK CAR	34	X
PIPELINE, COAL SLURRY	43	S
PIPELINE, GAS OR OIL	44	P
TRUCK, UNSPECIFIED TYPE	50	T
TRUCK,TANK	54	Y
TRUCK,LNG	55	Z
CONVEYOR BELT	81	C
OTHER	99	O

PAGE: TYTRAN-1

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYUNMS

DATA ITEM LIST TITLE: TYPE OF UNIT OF MEASURE

DATA ITEM LIST DESCRIPTION: INDICATES THE PHYSICAL OR TIME UNITS BY WHICH A VALUE IS MEASURED.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
LITER	1	L
ACRE FEET	2	ACFT
ACRE	3	ACRE
AMPERE	4	AMP
BARREL	5	BBL
BARRELS PER HOUR	6	BBL/HR
BILLIONS BTU	7	BBTU
BRAKE HORSEPOWER	8	BHP
BARRELS PER DAY	9	BPD
BRITISH THERMAL UNIT	10	BTU
BTU PER CUBIC FOOT	11	BTU/CF
BTU PER ONE CENT (MONEY)	12	BTU/CTS
BTU PER KWH	13	BTU/KWH
BTU PER MCF	14	BTU/MCF
CENTRIGRADE	15	C
CUBIC CENTIMETER	16	CC
CUBIC FEET PER MINUTE	17	CFM
CUBIC FEET PER SECOND	18	CFS
CFS PER KILOWATT	19	CFS/KW
CUBIC FEET PER YEAR	20	CFY
CENTIMETER	21	CM
CANDLE POWER	22	CP
CENTS PER MMBTU	23	CT/MMBT
CENTS (MONEY)	24	CTS
CENTS PER KWH	25	CTS/KWH
CENTS PER MCF	26	CTS/MCF
CUBIC FEET	27	CUFT
HUNDREDWEIGHT	28	CWT
DEGREES, API (SPECIFIC GRAVITY)	29	DEGA
DEGREES, CENTIGRADE (TEMPERATURE)	30	DEGC
DEGREES, FARENHEIT (TEMPERATURE)	31	DEGF
DEGREES, ANGULAR MEASURE	32	DEGG
DEGREES, KELVIN (TEMPERATURE)	33	DEGK
DEGREES, RANKINE	34	DEGR
DOLLARS		DOL

(CONTINUED)

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYUTSV

DATA ITEM LIST TITLE: TYPE OF UTILITY SERVICE

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPE OF UTILITY SERVICE WITH RESPECT TO THE LOAD CHARACTERISTICS.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
BASE LOAD	1	BL
AUXILIARY PEAKING	2	PK
STANDBY	3	SB
PEAK SHAVING	4	PH
PEAKING STANDBY	5	PS
CYCLING	6	CY

FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYWWPR

DATA ITEM LIST TITLE: TYPE OF WATERWHEEL PROPELLOR

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPE OF WATERWHEEL WITH RESPECT TO THE PLANE OF THE PROPELLOR BLADES.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
HORIZONTAL	1	HORZ
VERTICAL	2	VERT
INCLINED	3	INCL

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FEDERAL POWER COMMISSION / REGULATORY INFORMATION SYSTEM

REGISTER OF DATA STANDARDS

DATA ITEMS

DATA ITEM LIST MNEMONIC: TYWWRN

DATA ITEM LIST TITLE: TYPE OF WATERWHEEL RUNNER

DATA ITEM LIST DESCRIPTION: INDICATES THE TYPE OF HYDRAULIC TURBINE BY THE TYPE OF WATERWHEEL RUNNER.

DATA ITEM LIST SOURCE: FPC STAFF

DATA ITEM LIST	CODE	ABBREVIATION
FRANCIS	1	F
PROPELLER (FIXED)	2	P
KAPLAN (AUTOMATICALLY ADJUSTABLE)	3	K
PELTON (IMPULSE)	4	W
DERIAZ (DIAGONAL FLOW AUTOMATIC PROPELLER)	5	D

PAGE: TYWWRN-1

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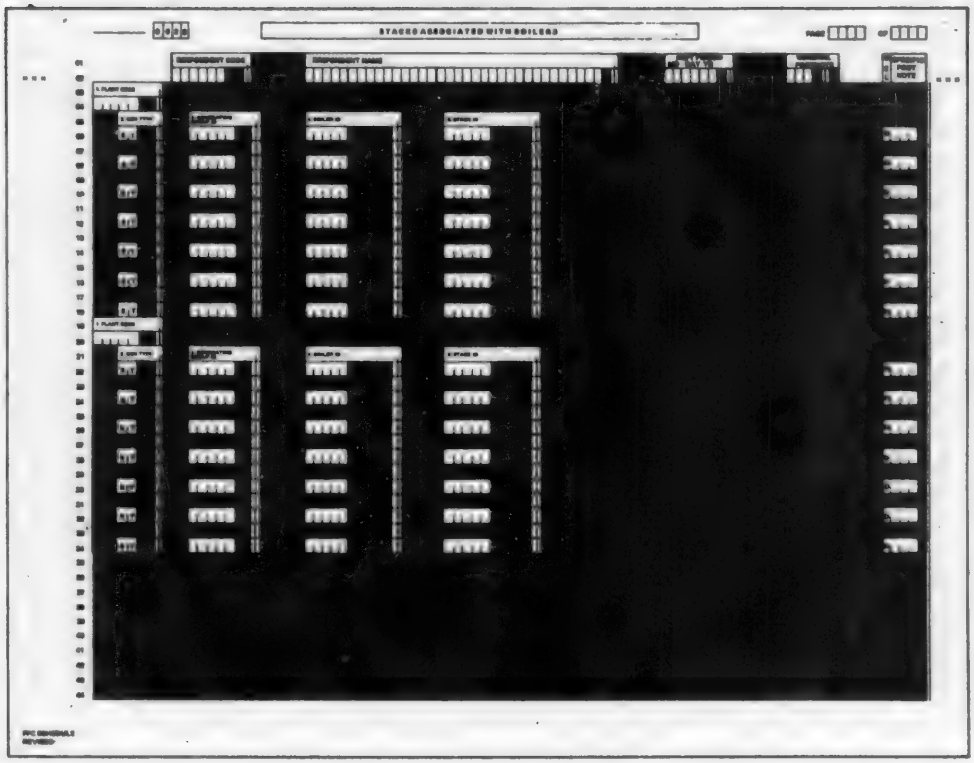

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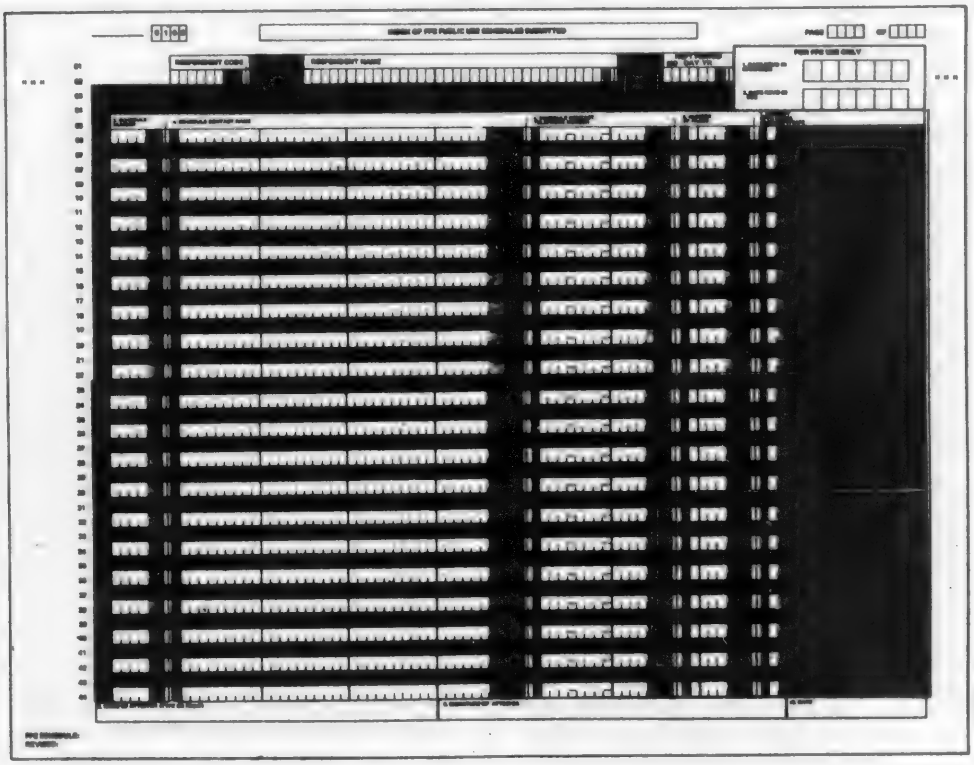

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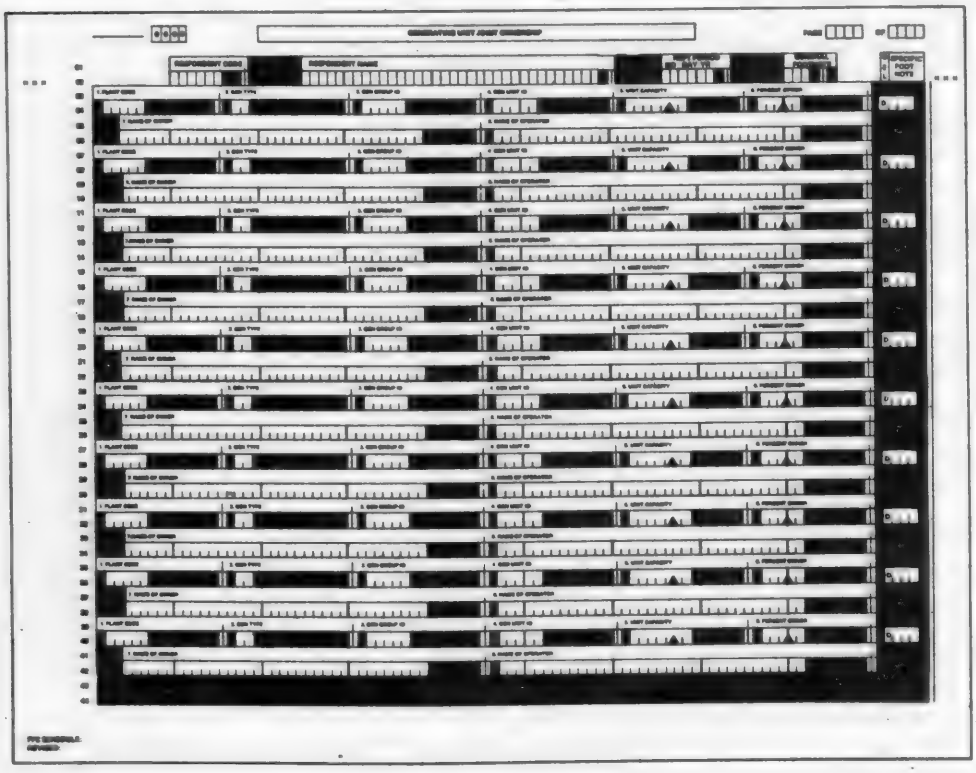

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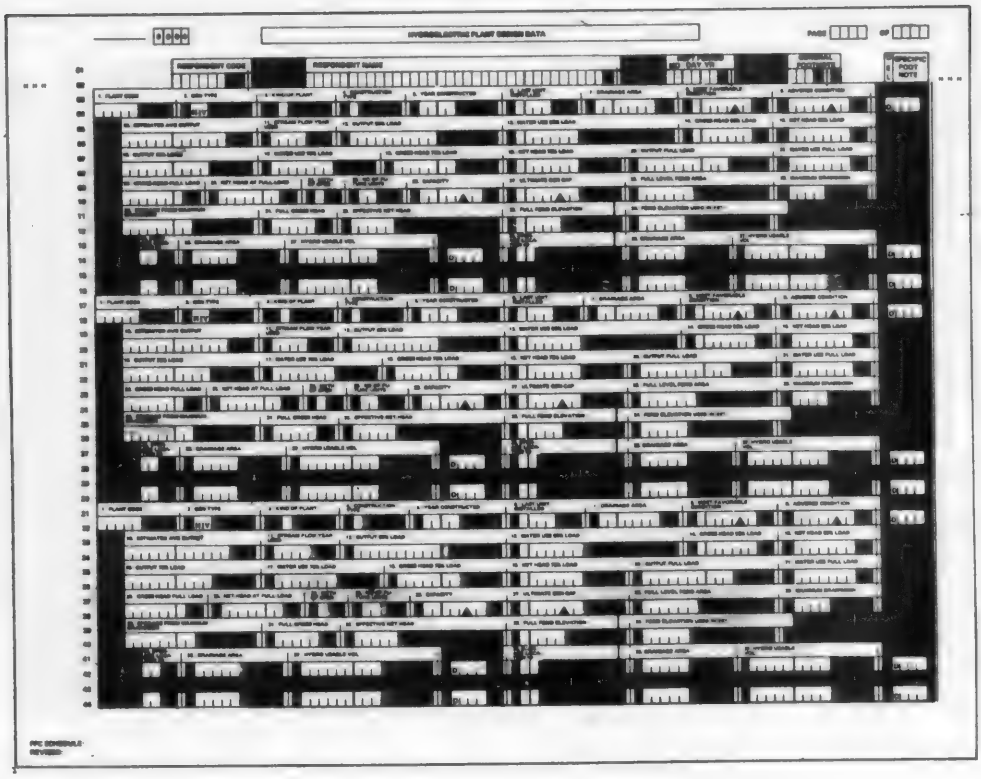

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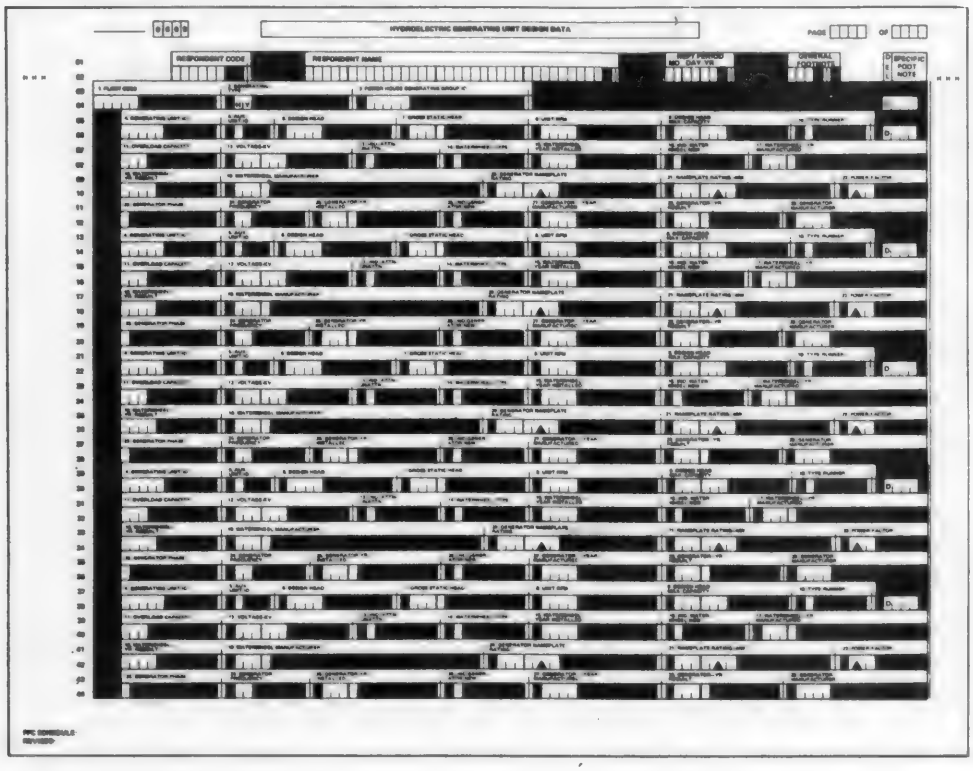

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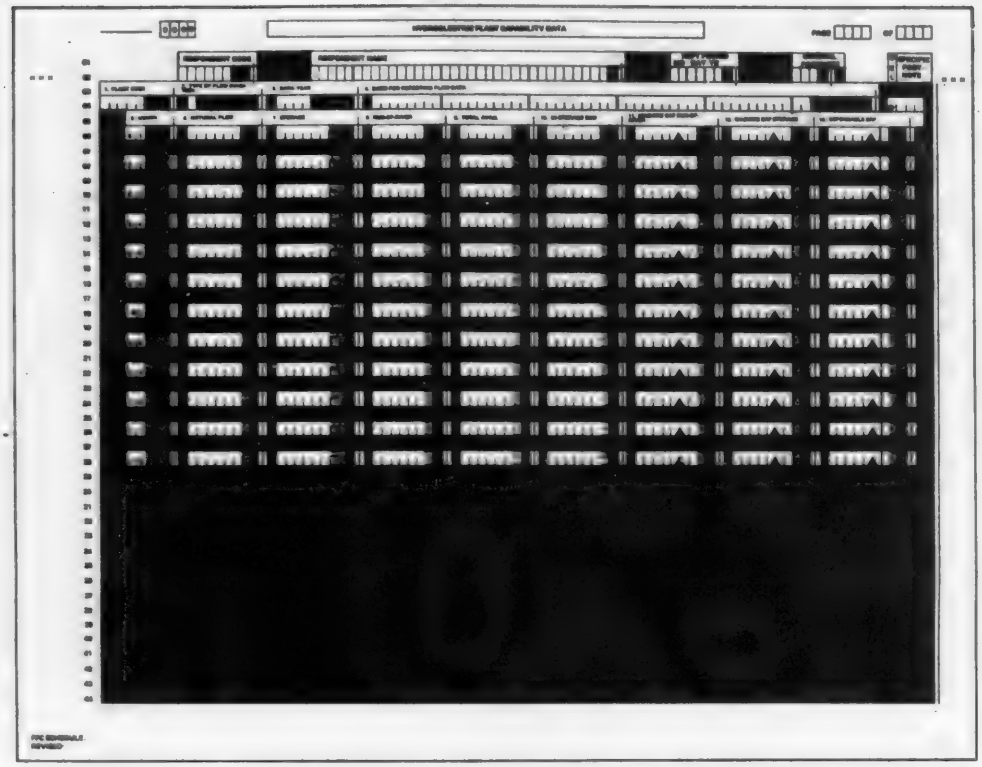

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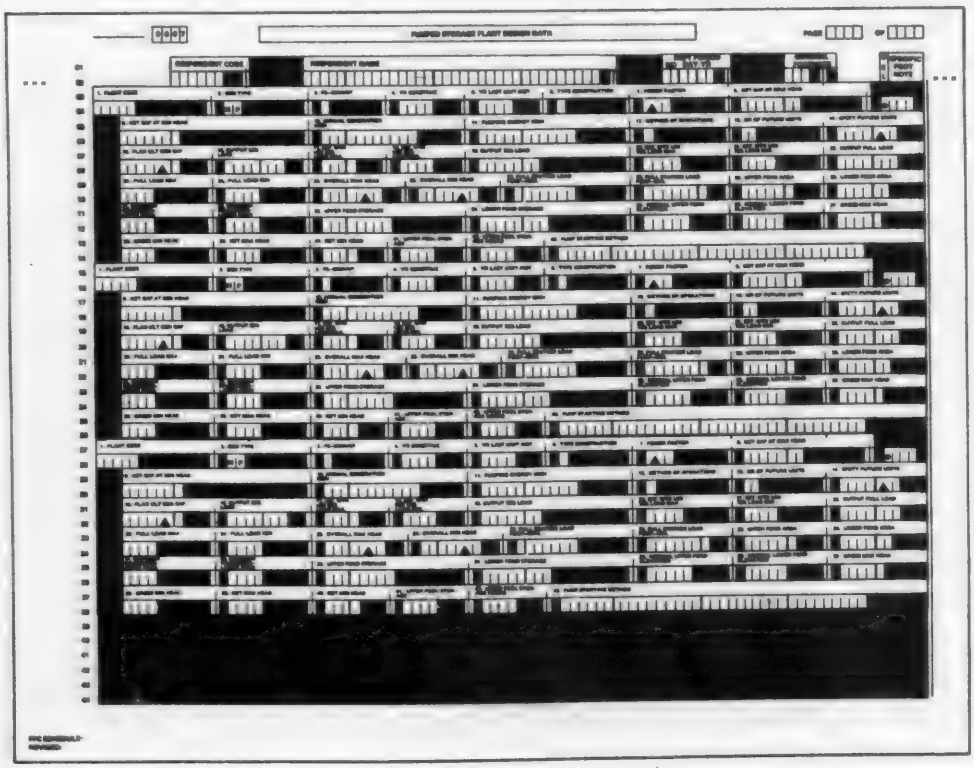

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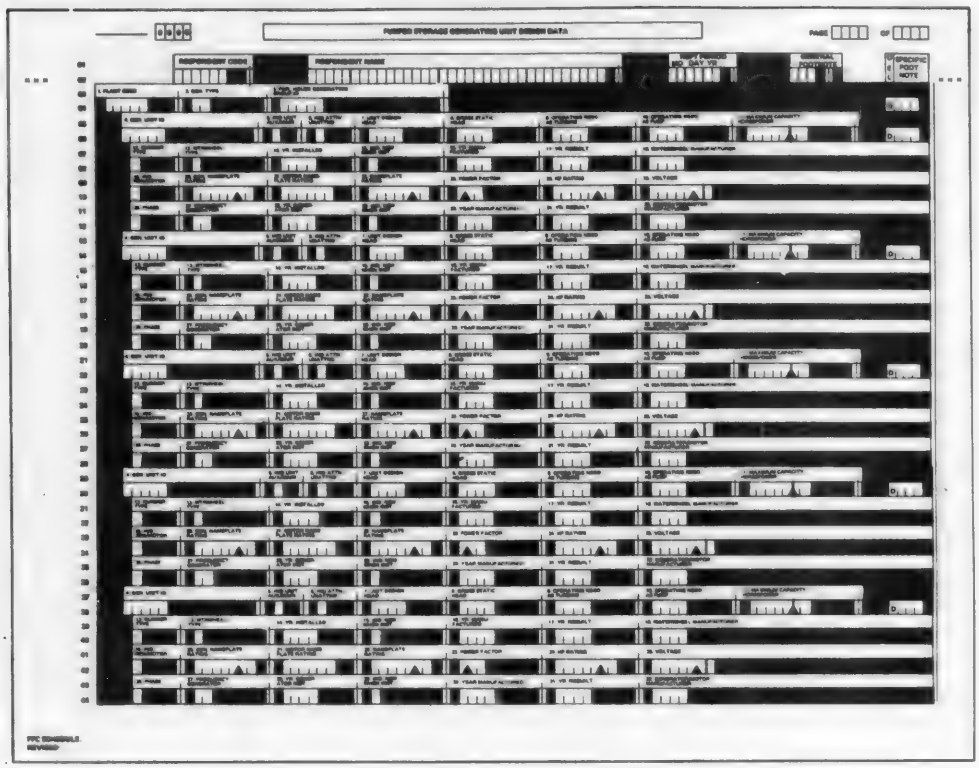

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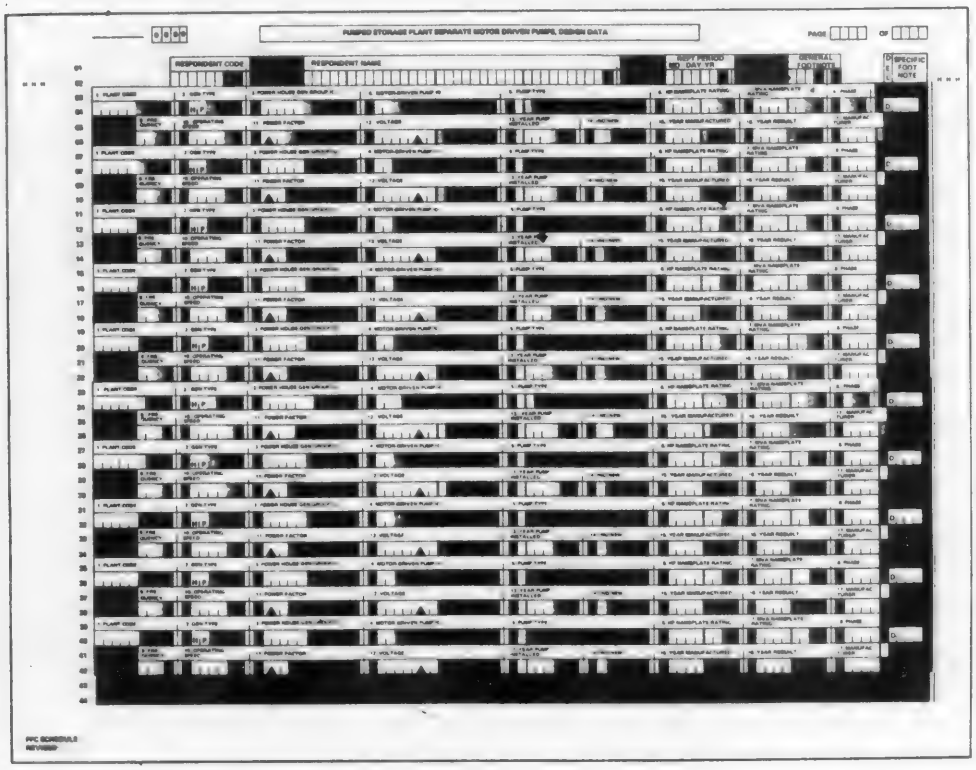

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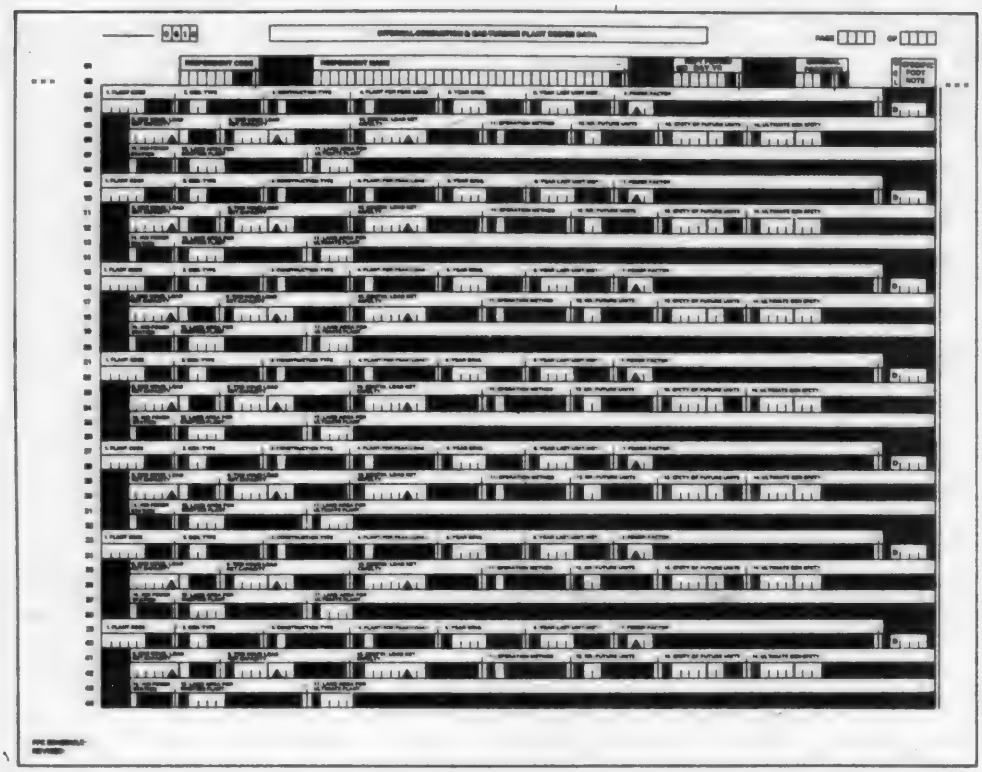

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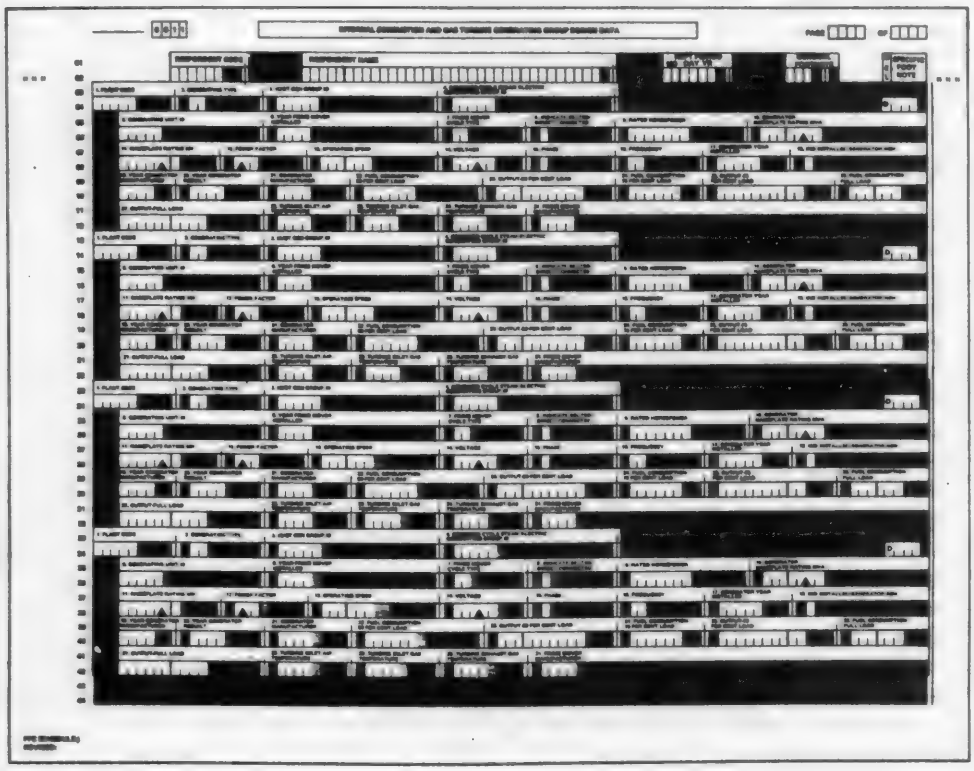

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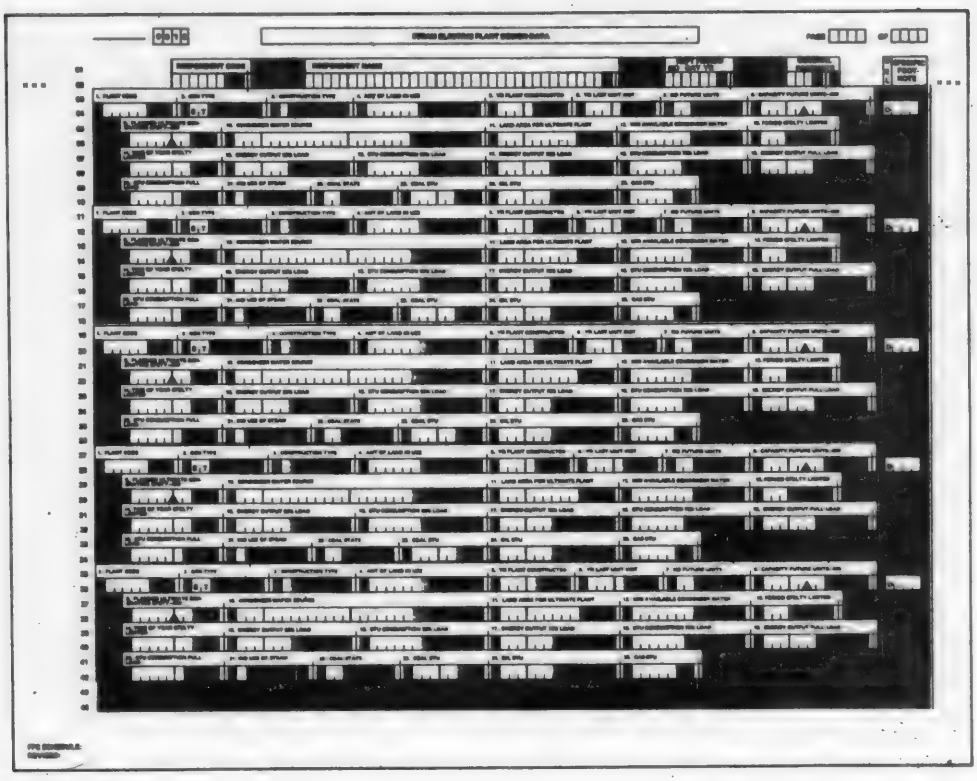

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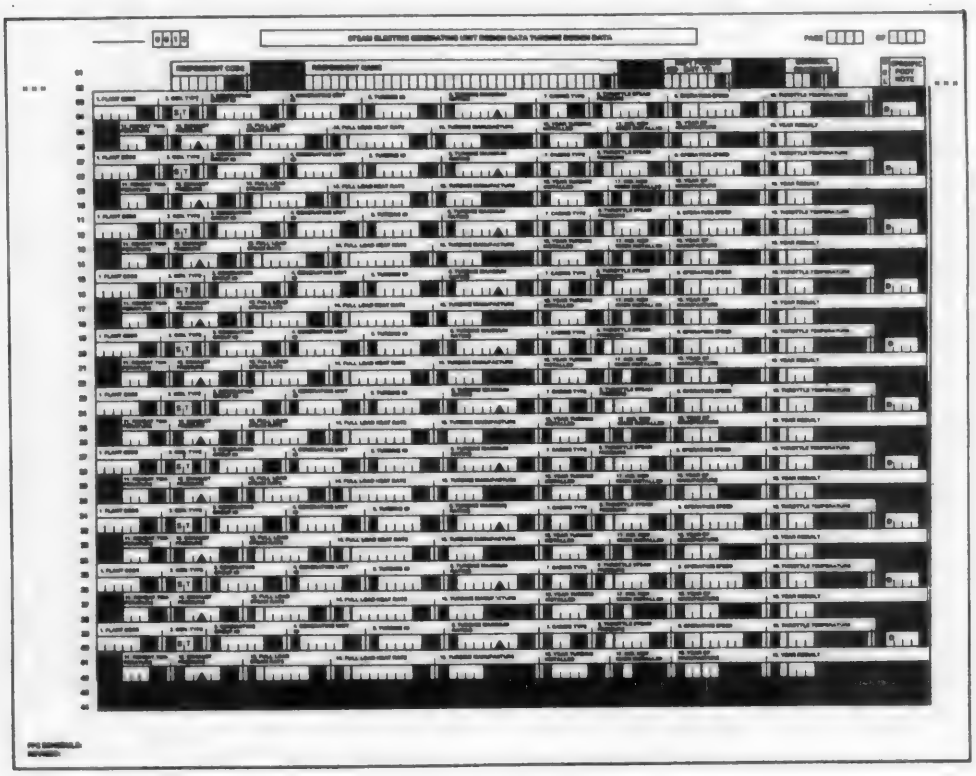

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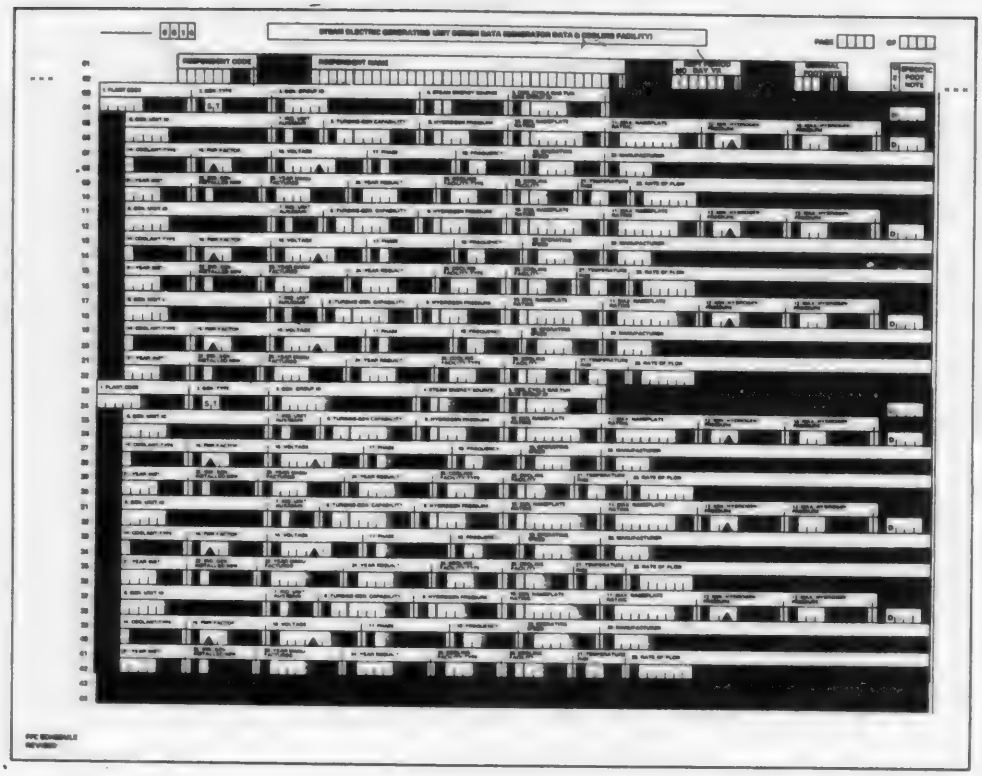

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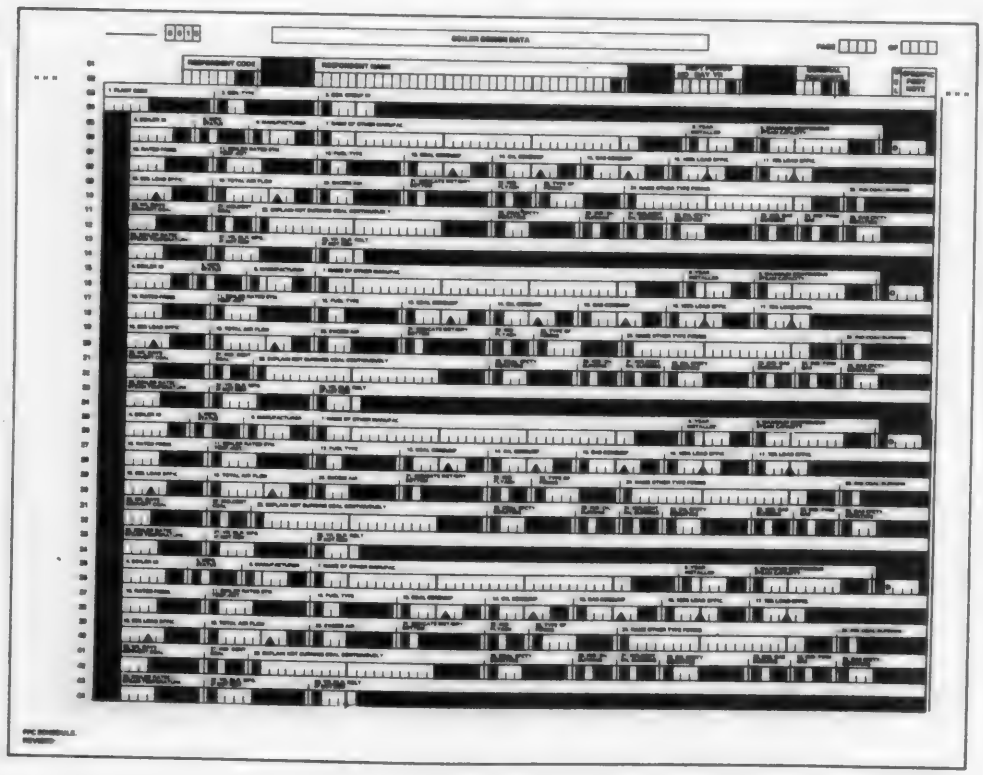

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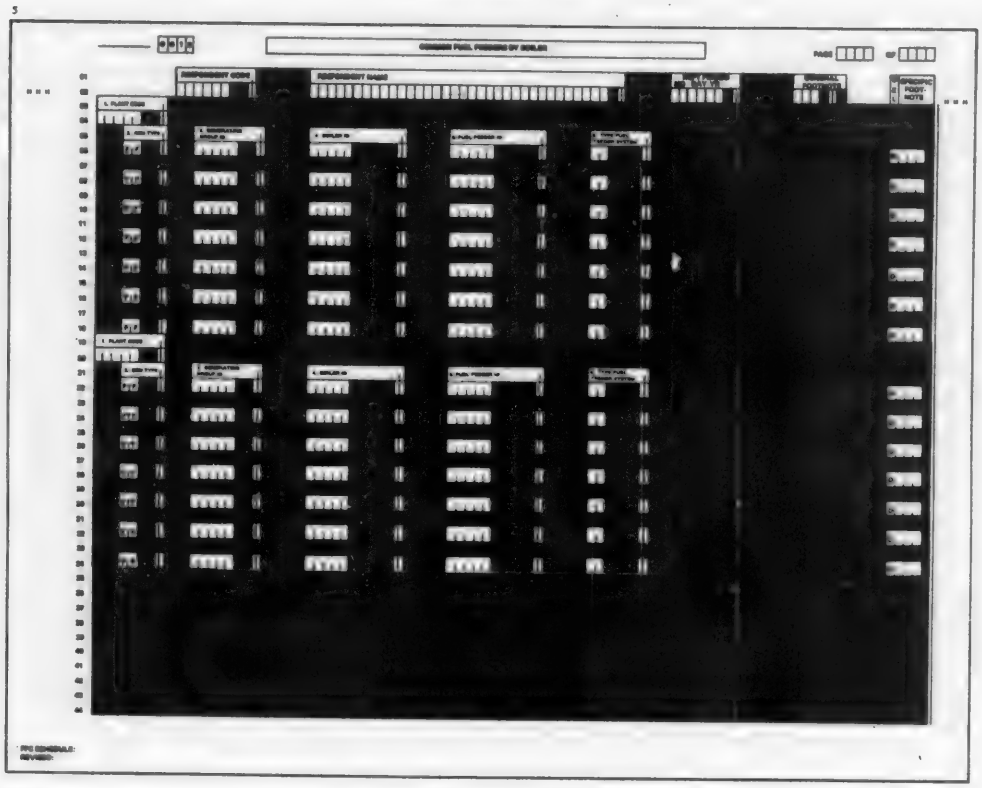

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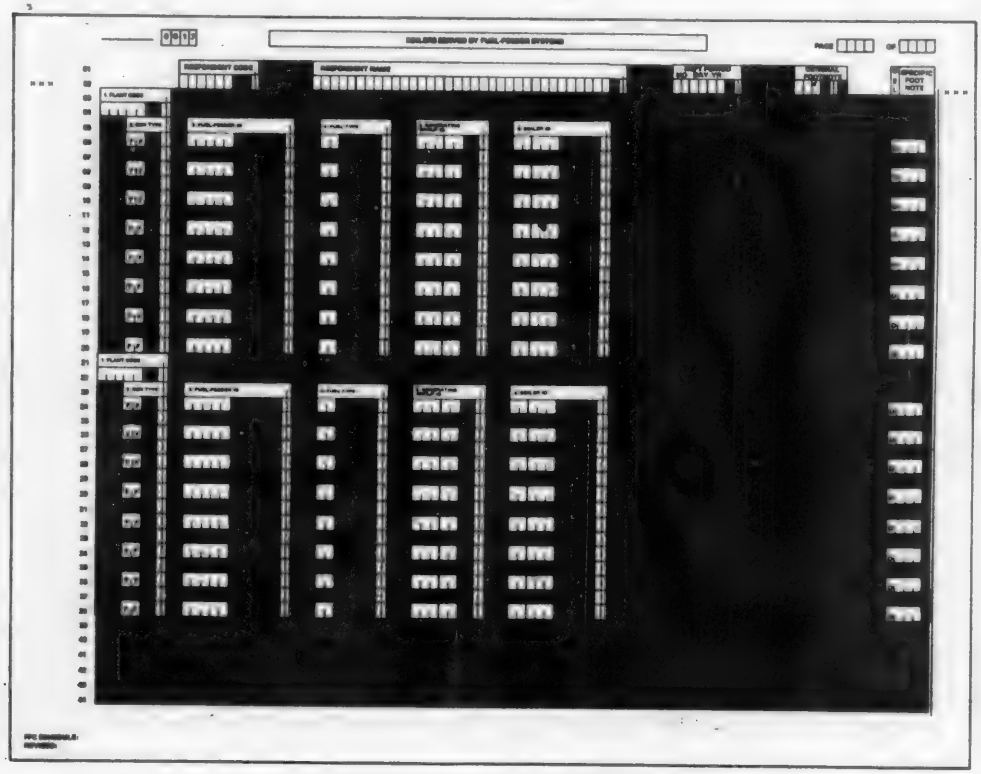

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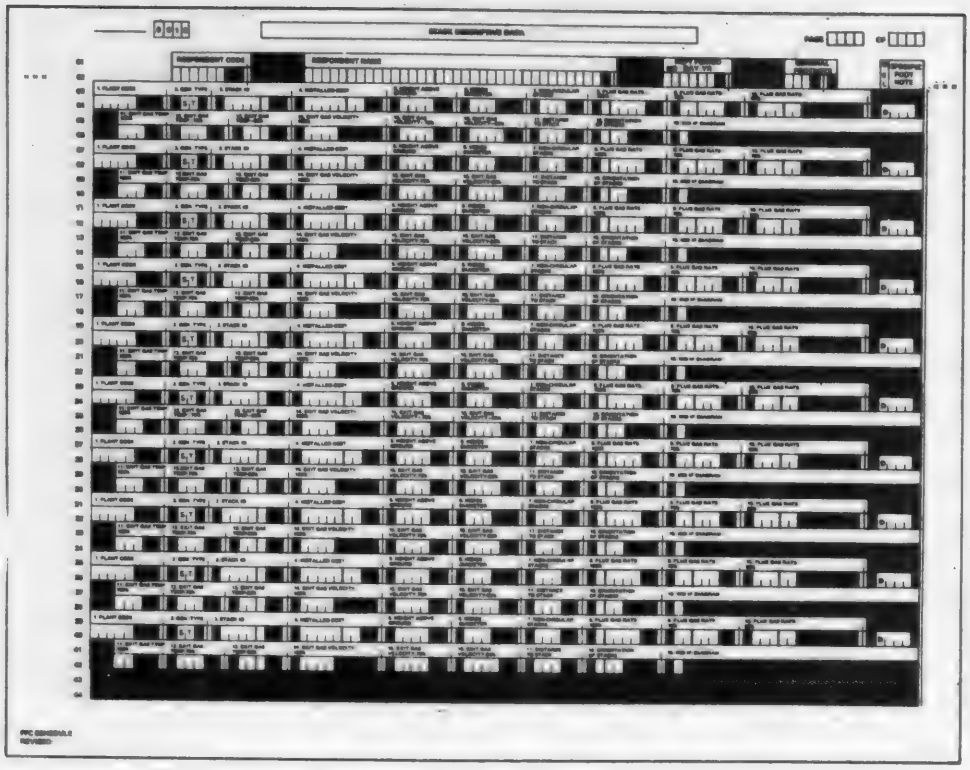

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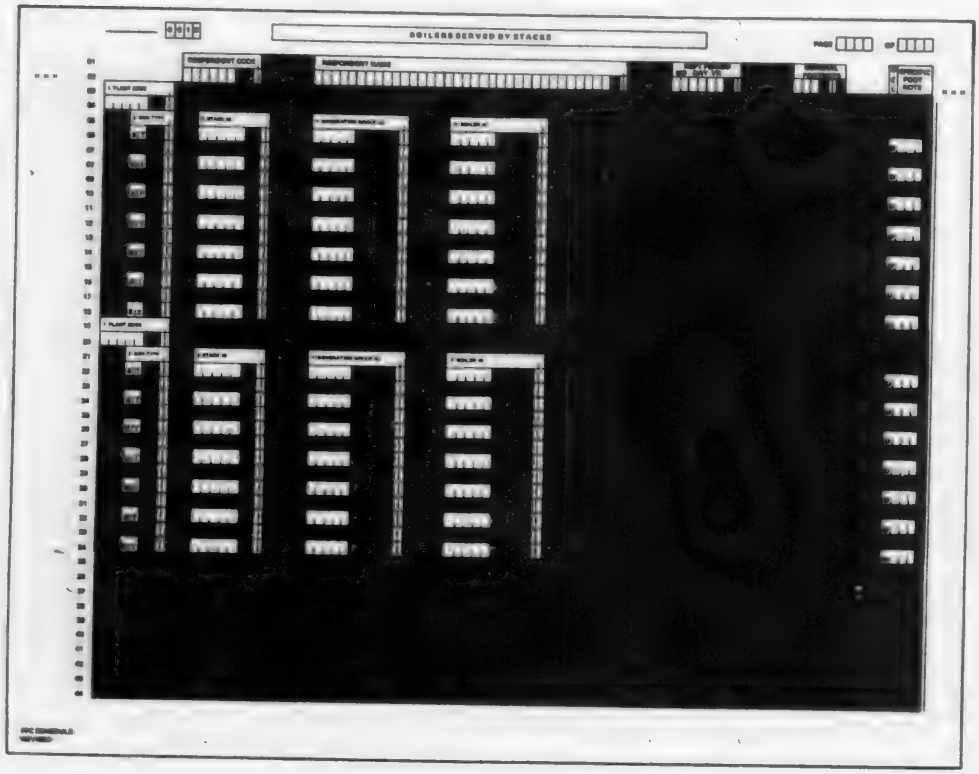

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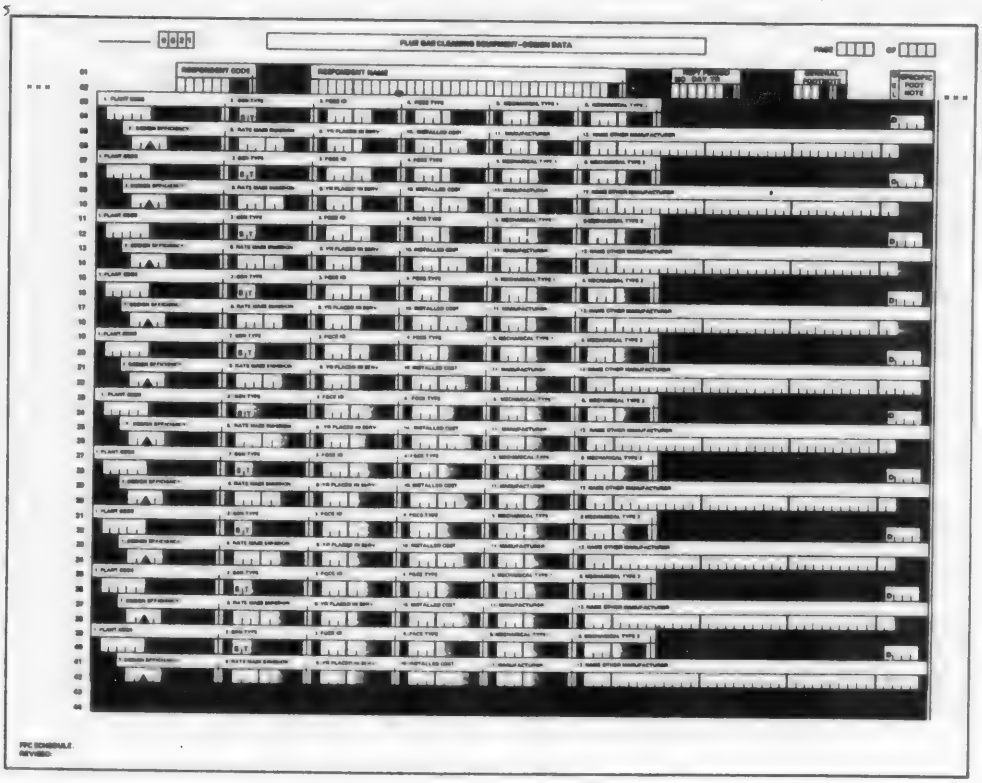

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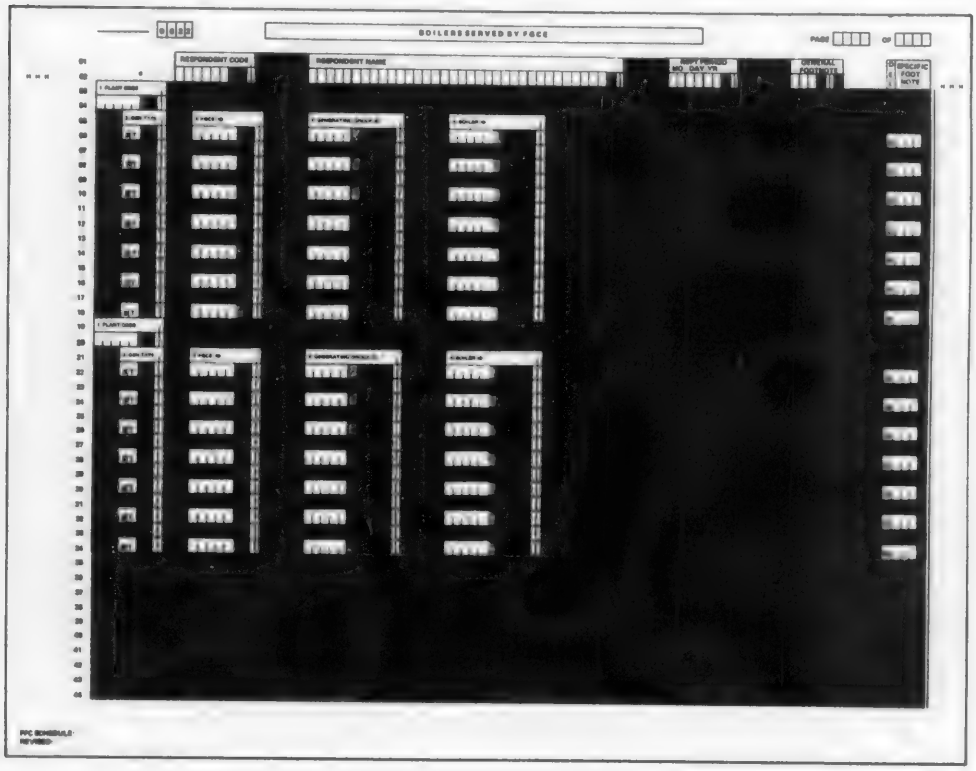

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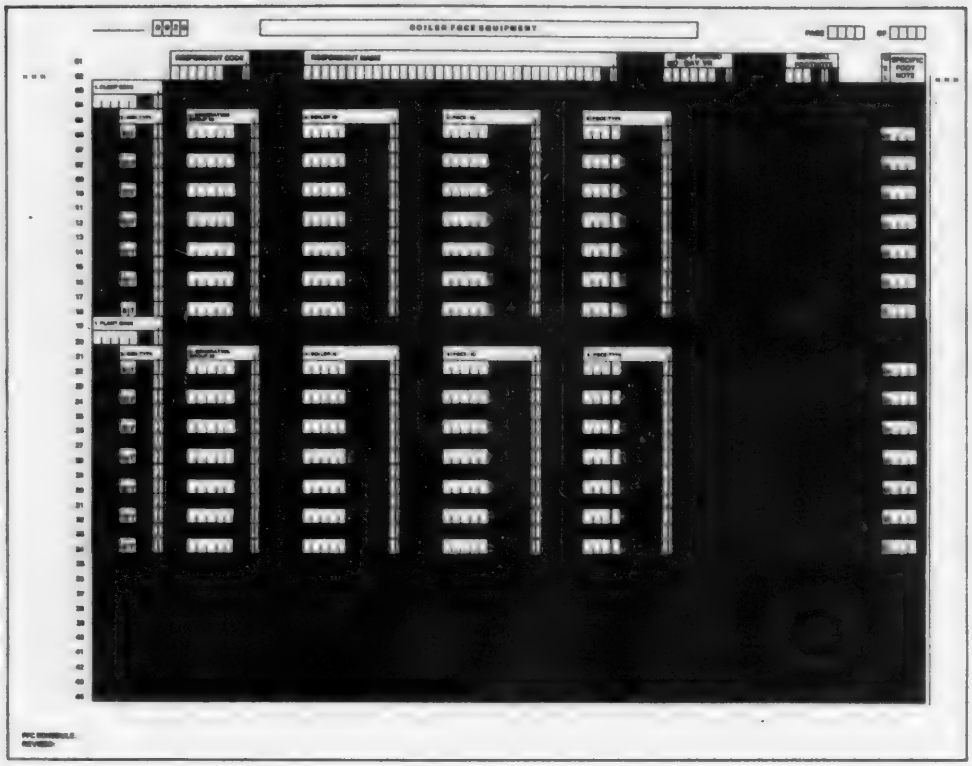

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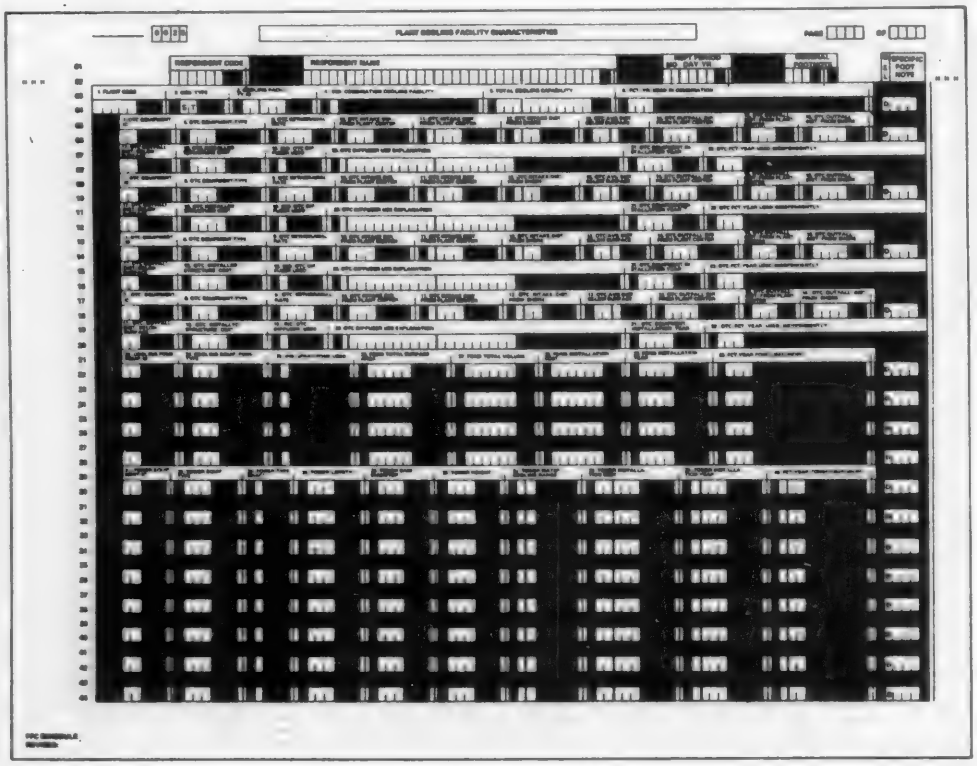

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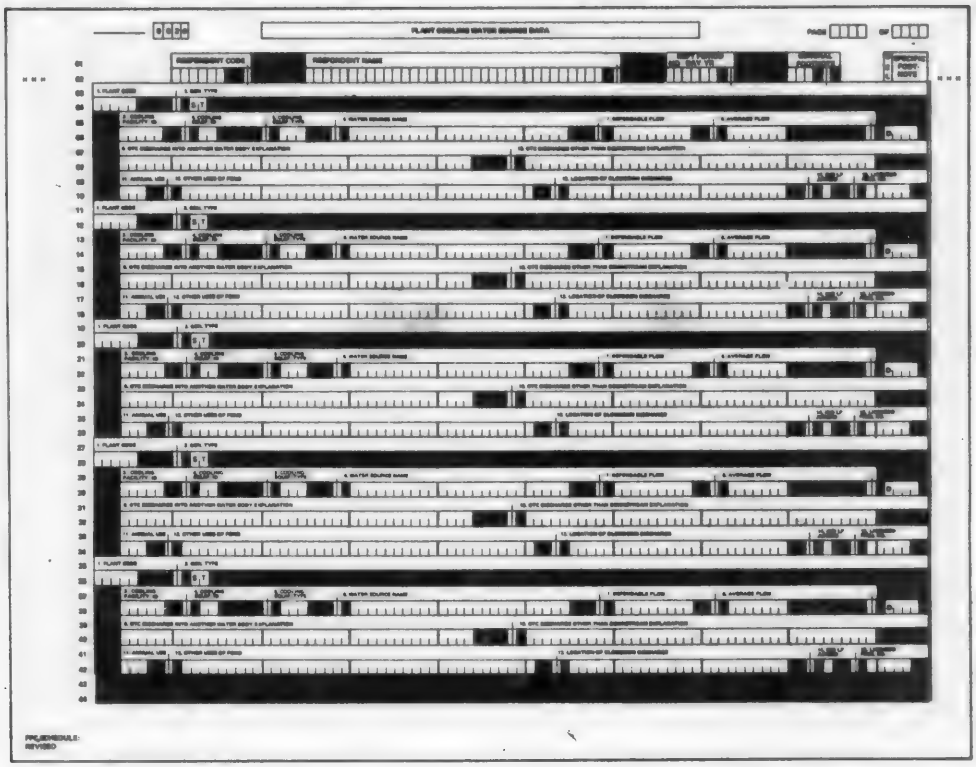

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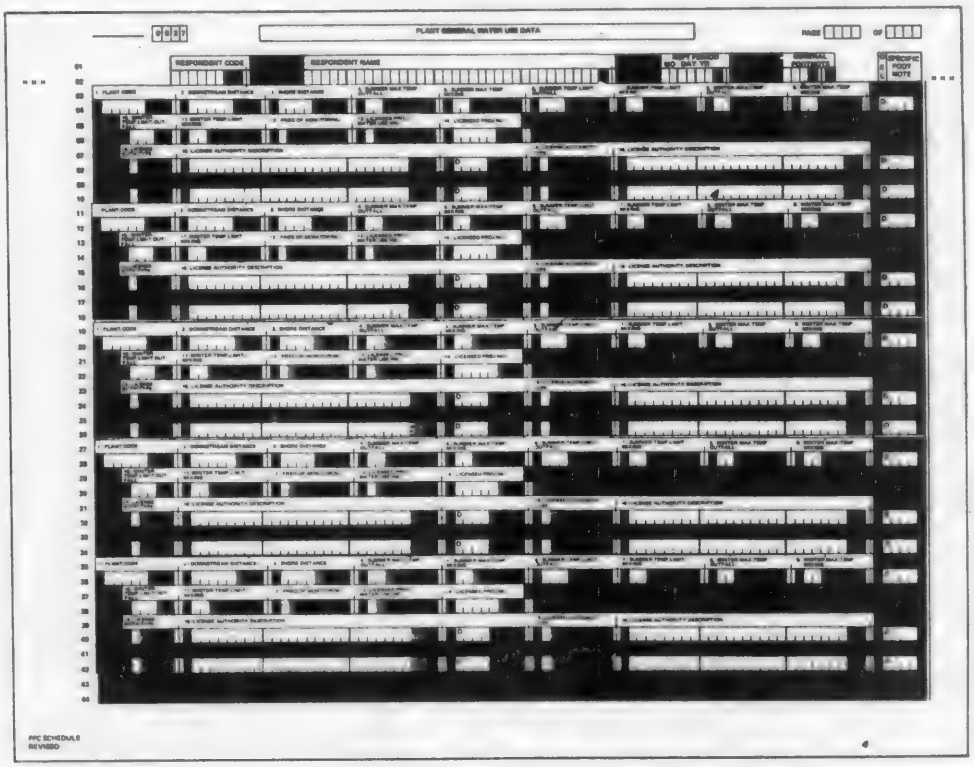

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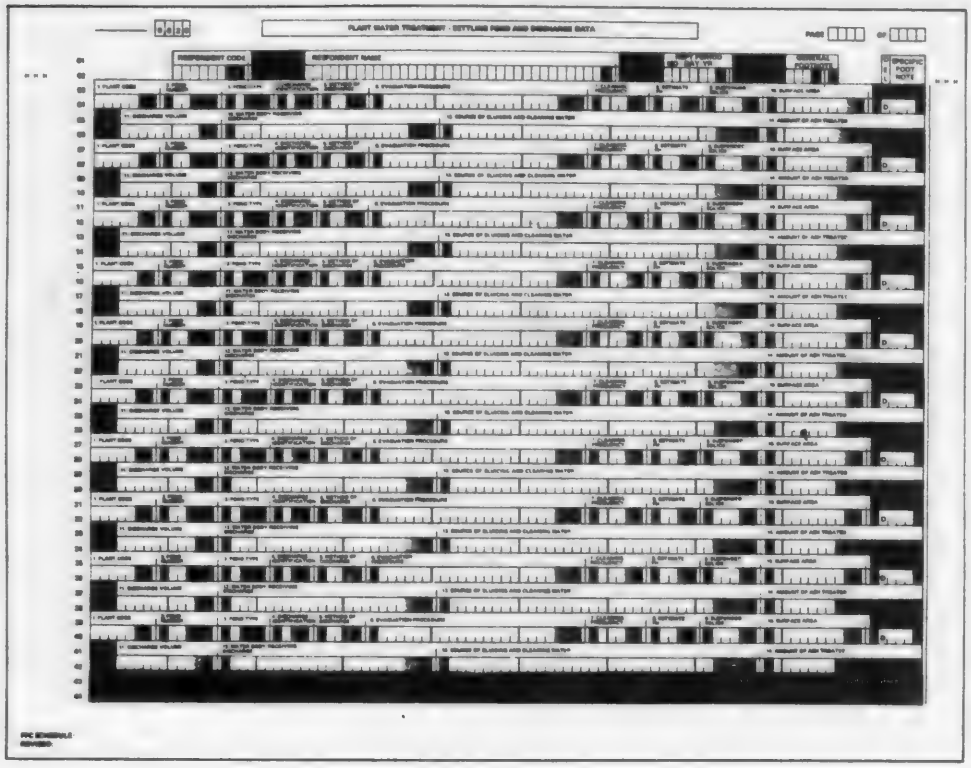

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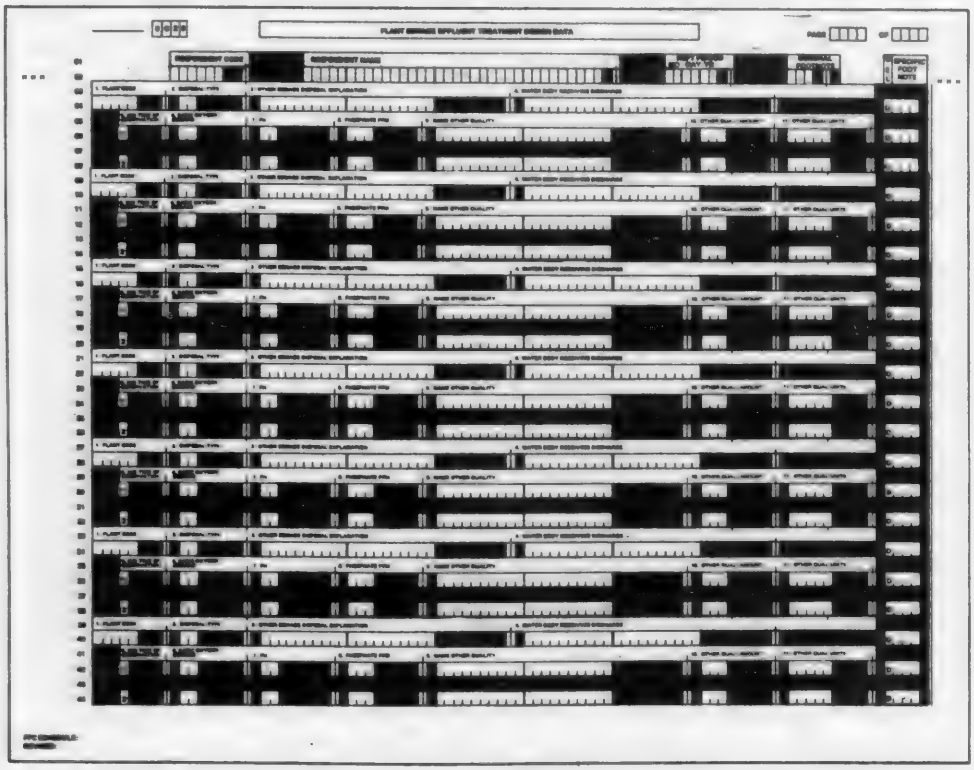

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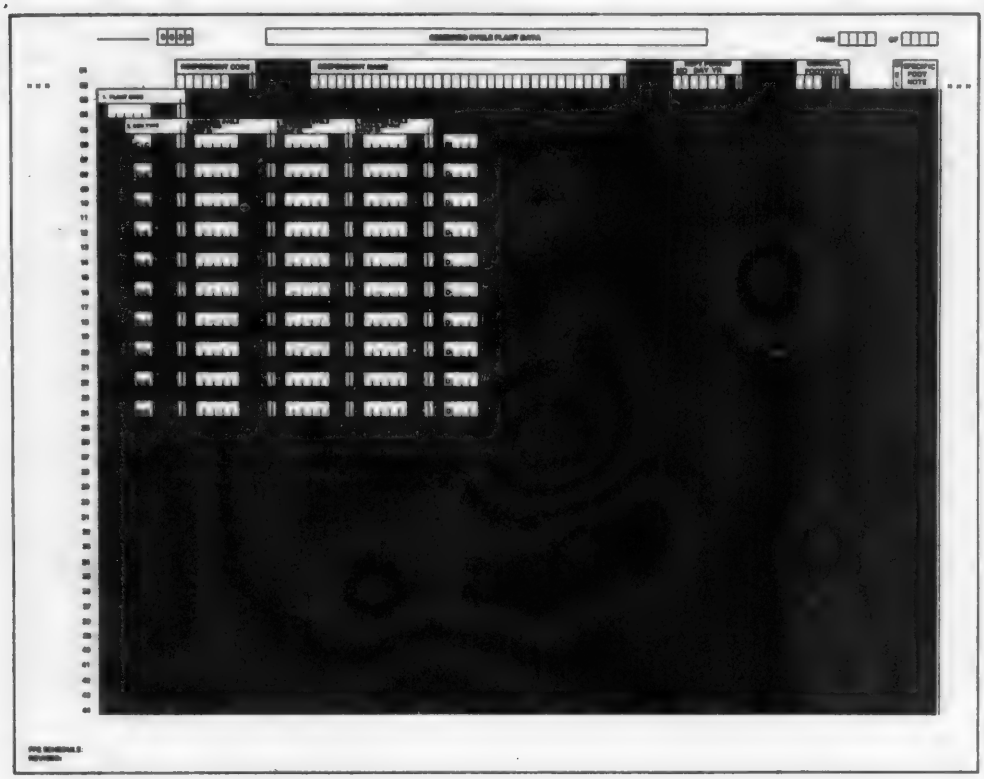

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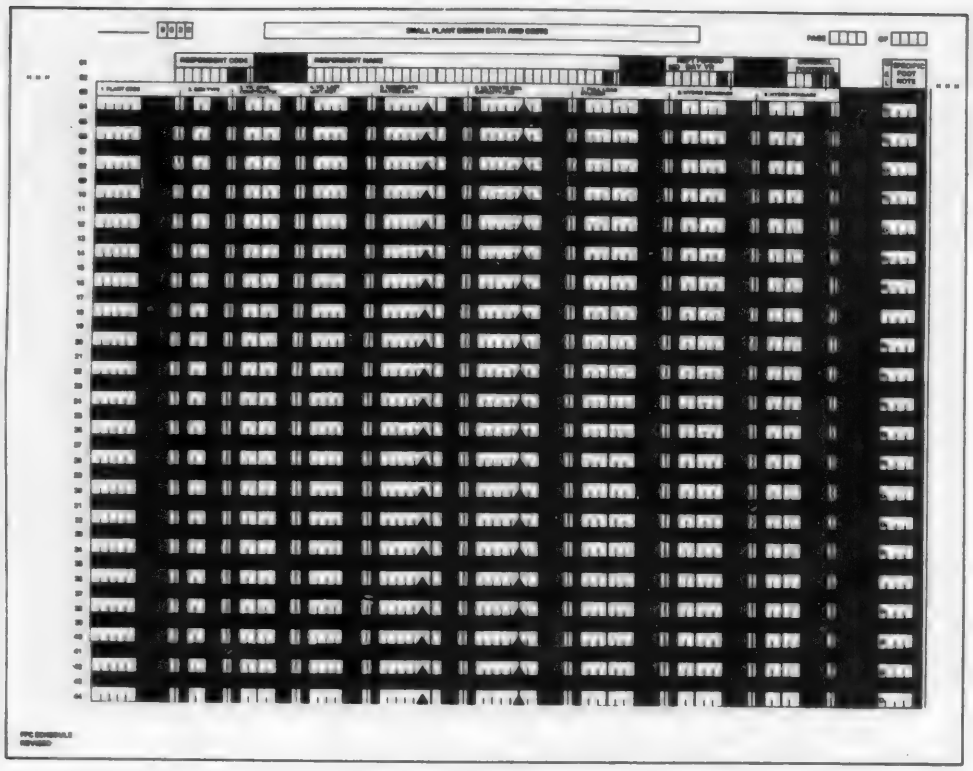

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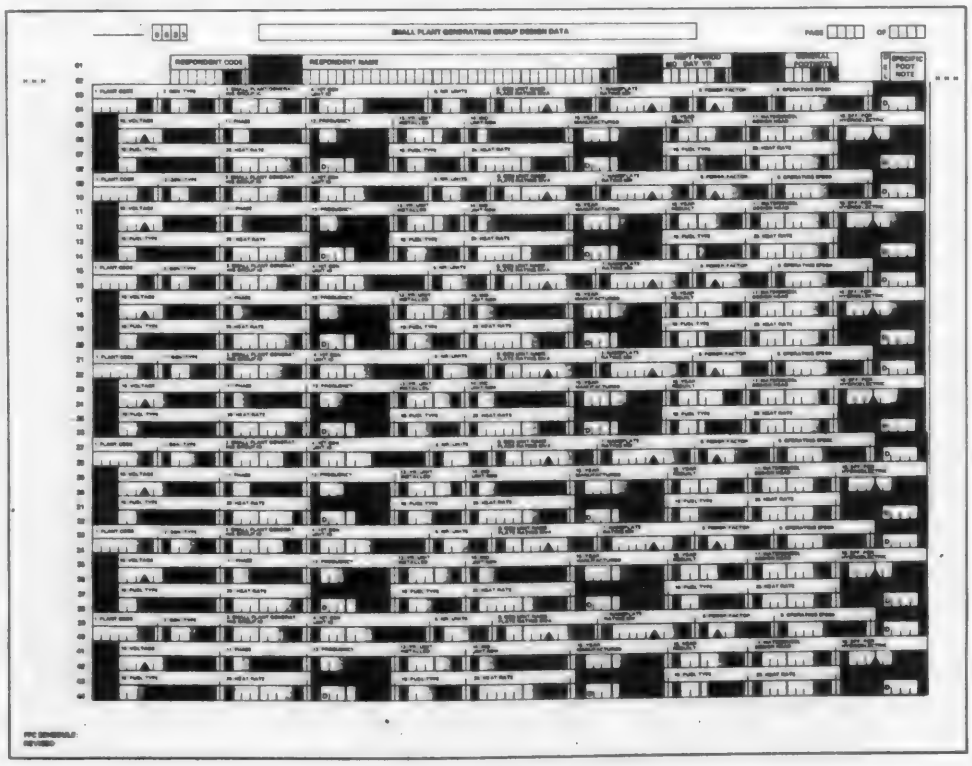

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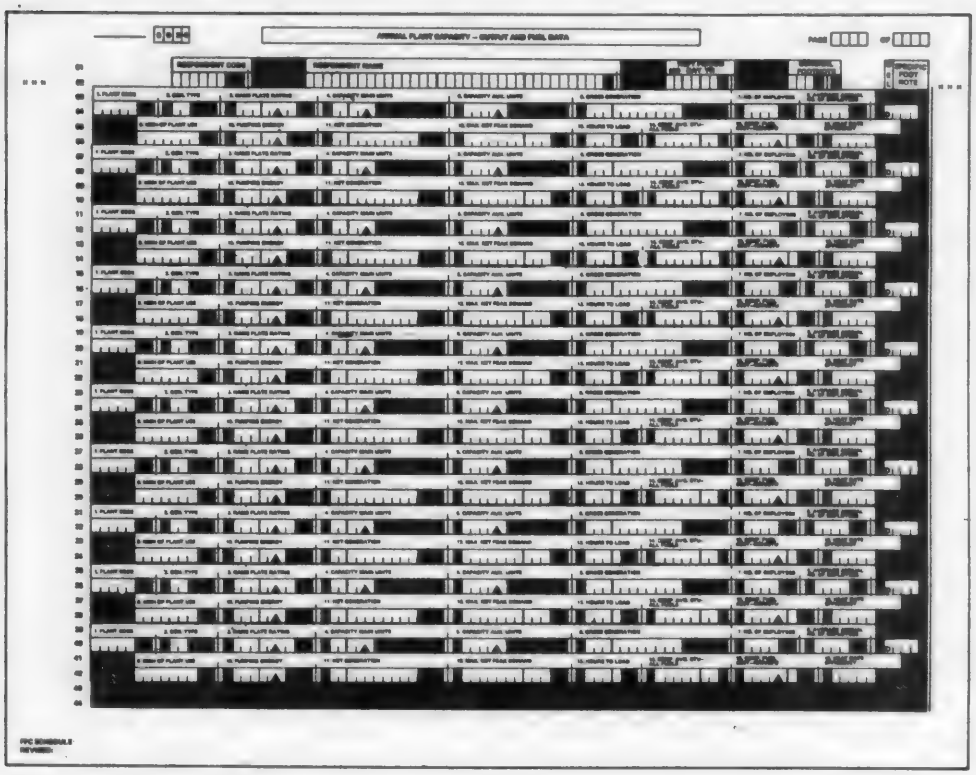

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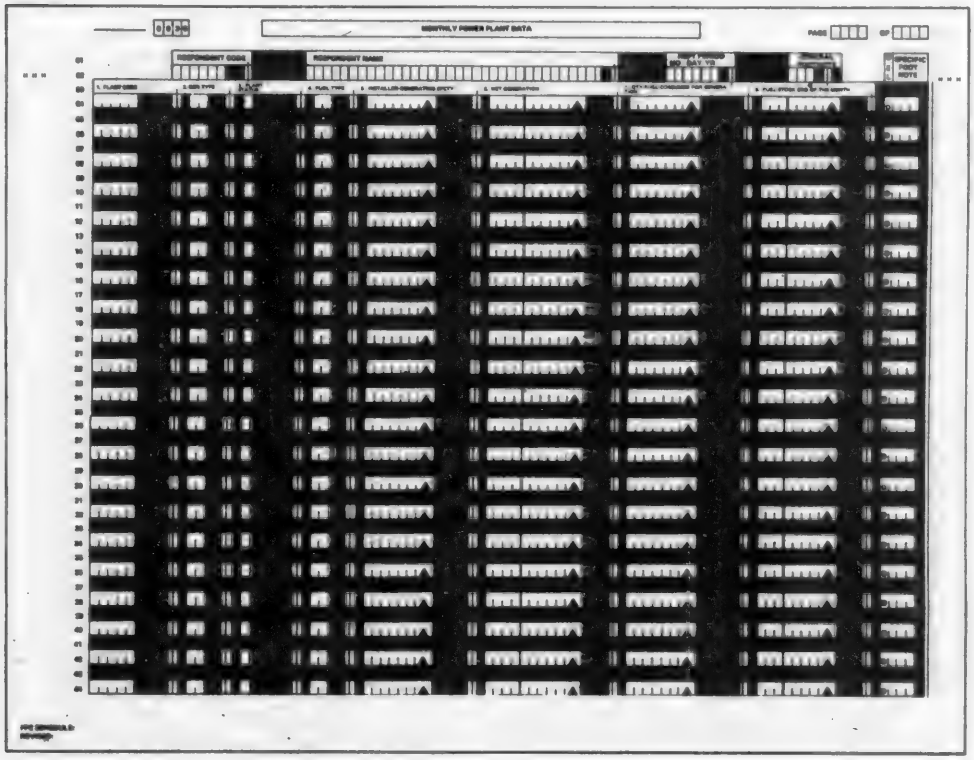

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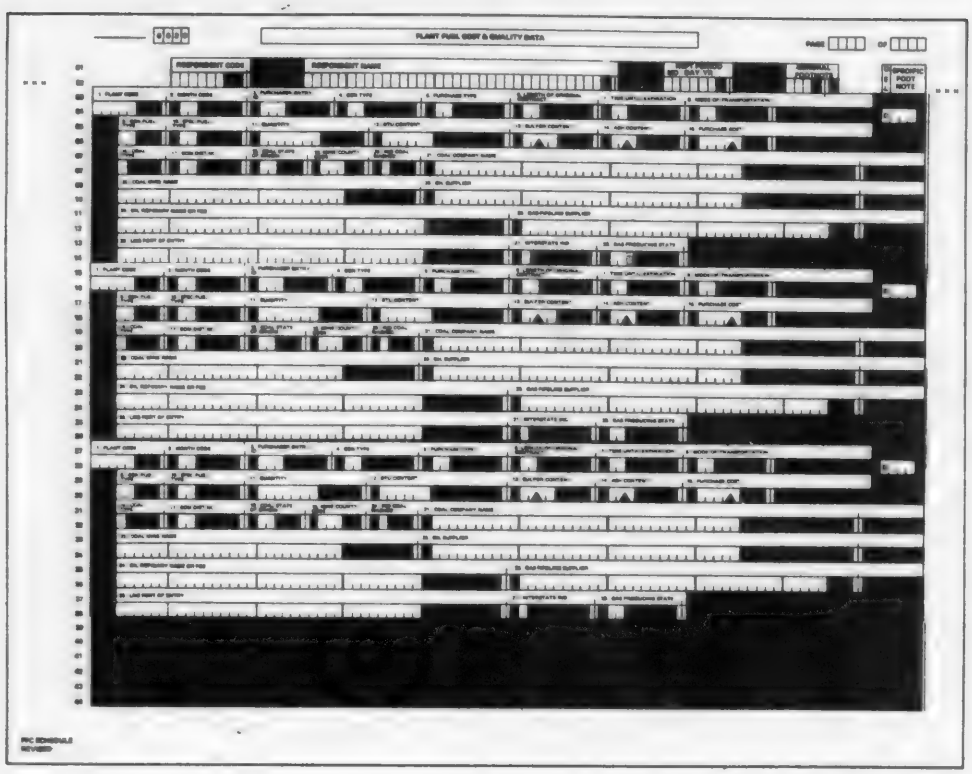

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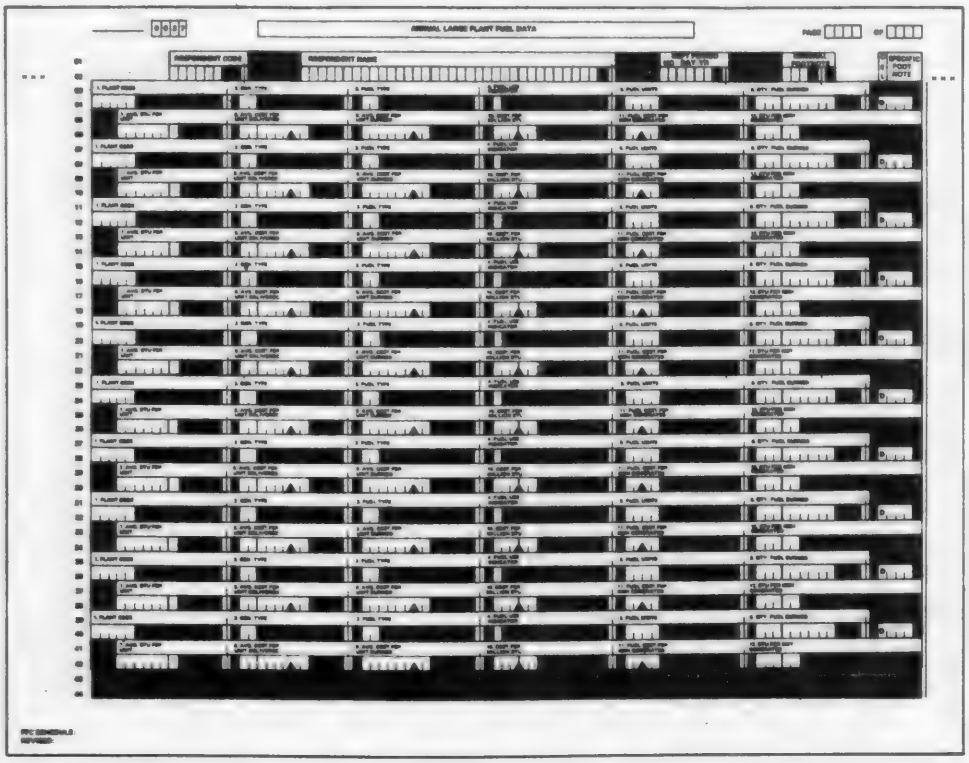

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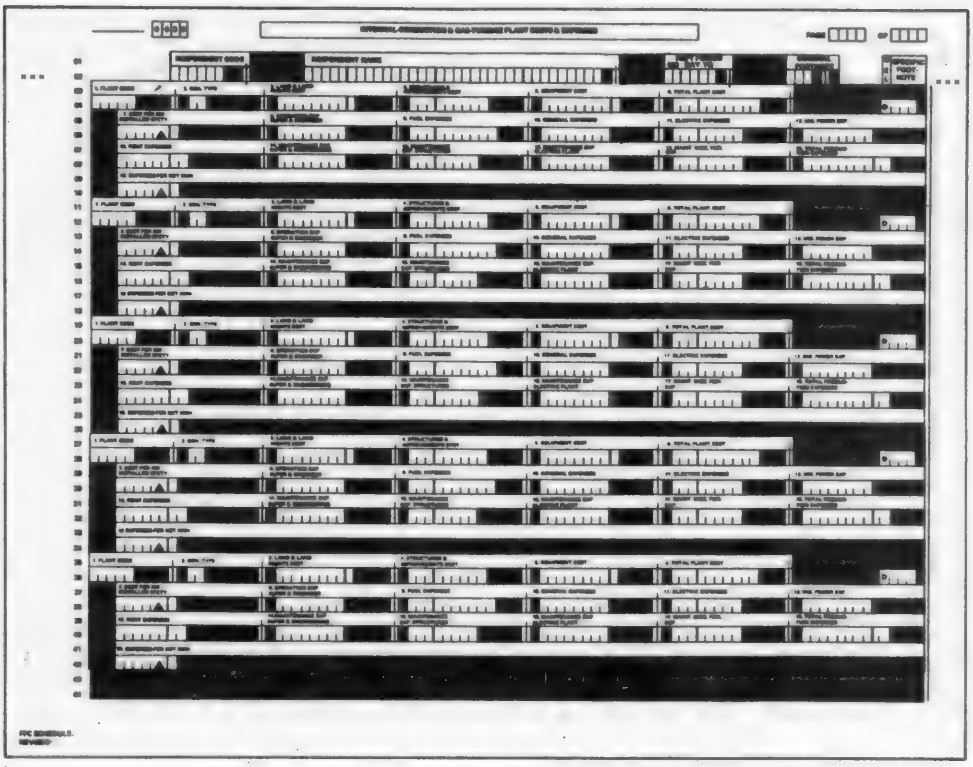

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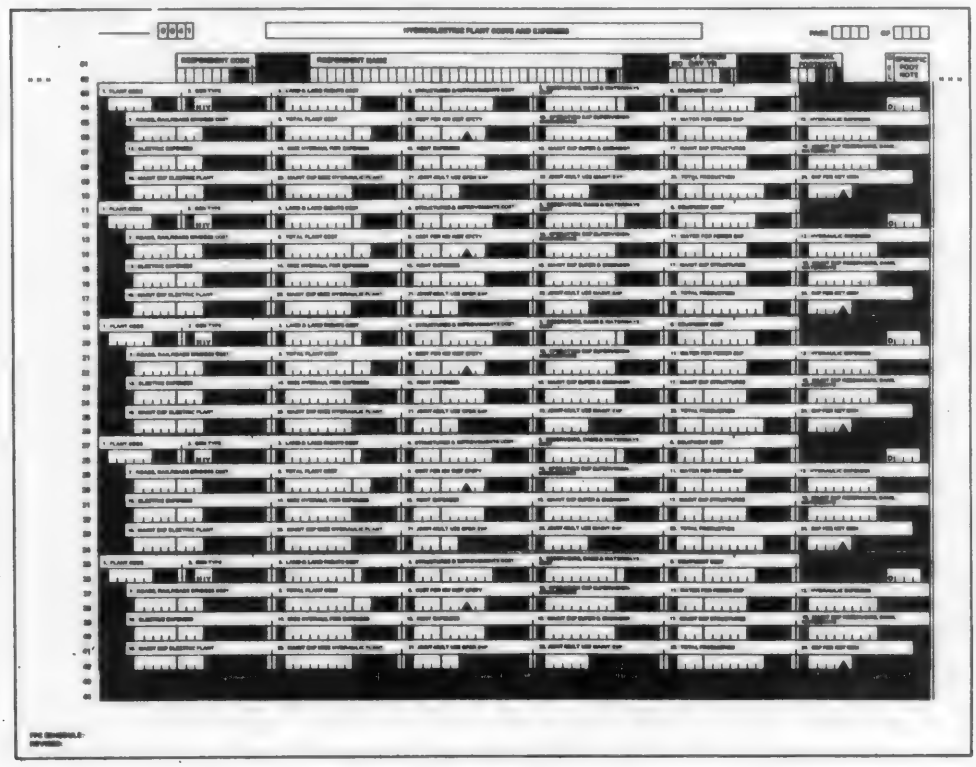

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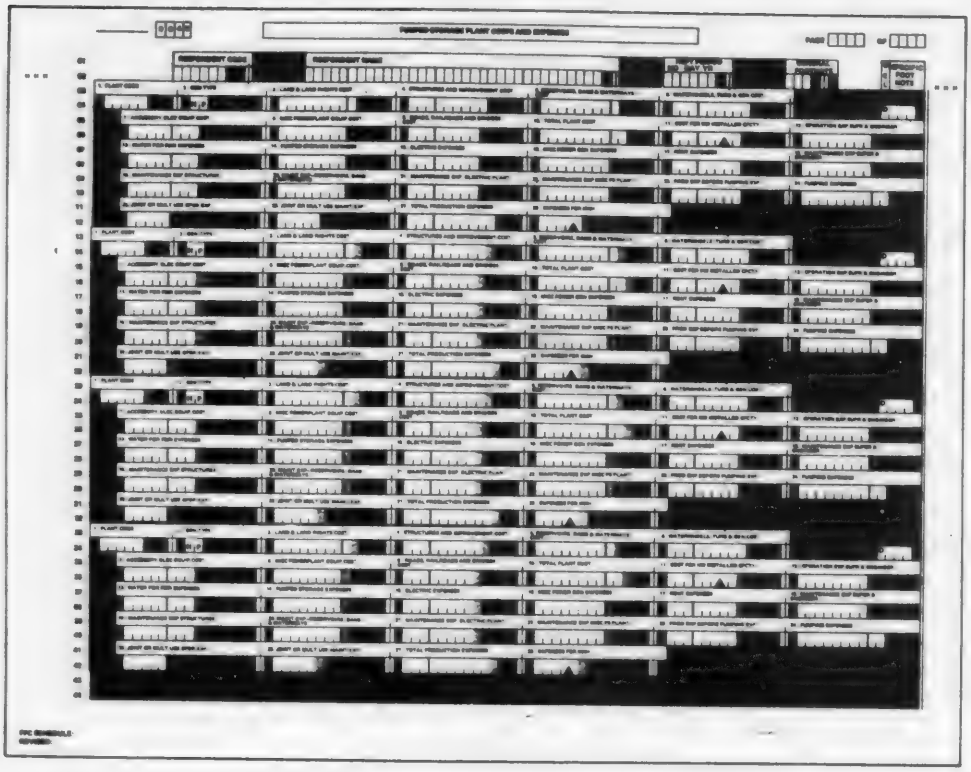

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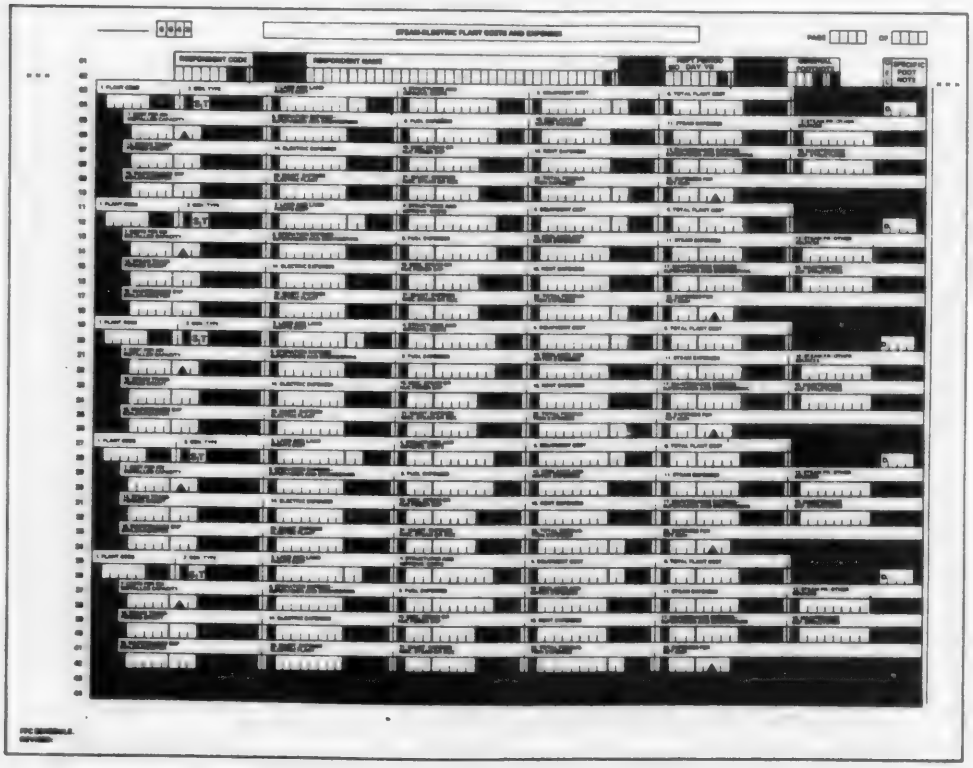

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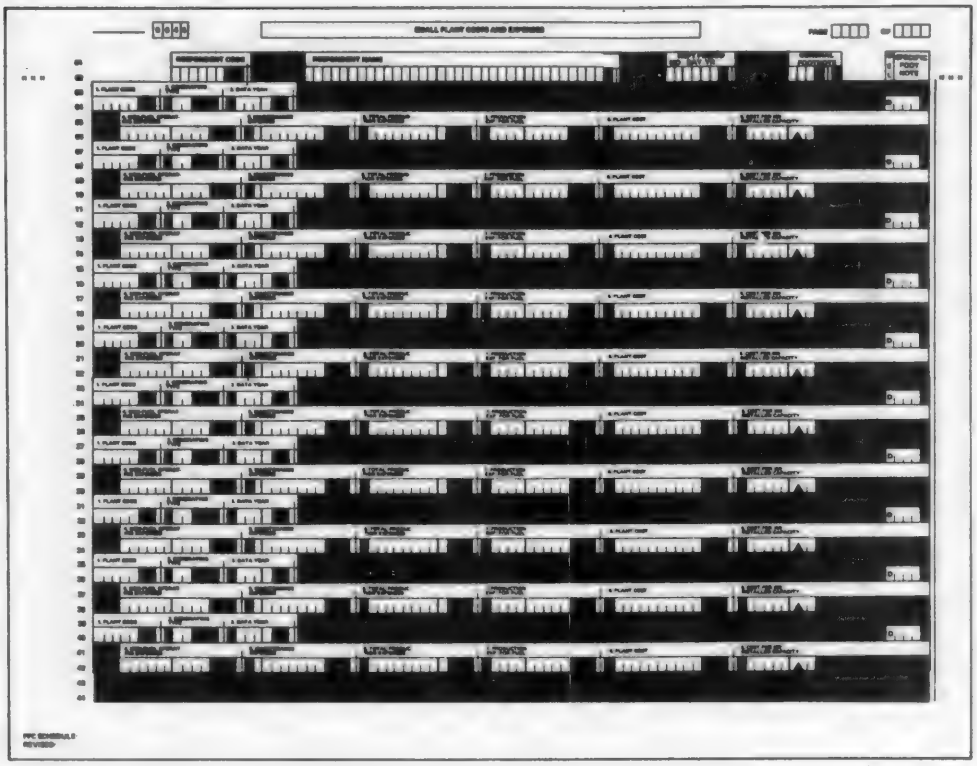

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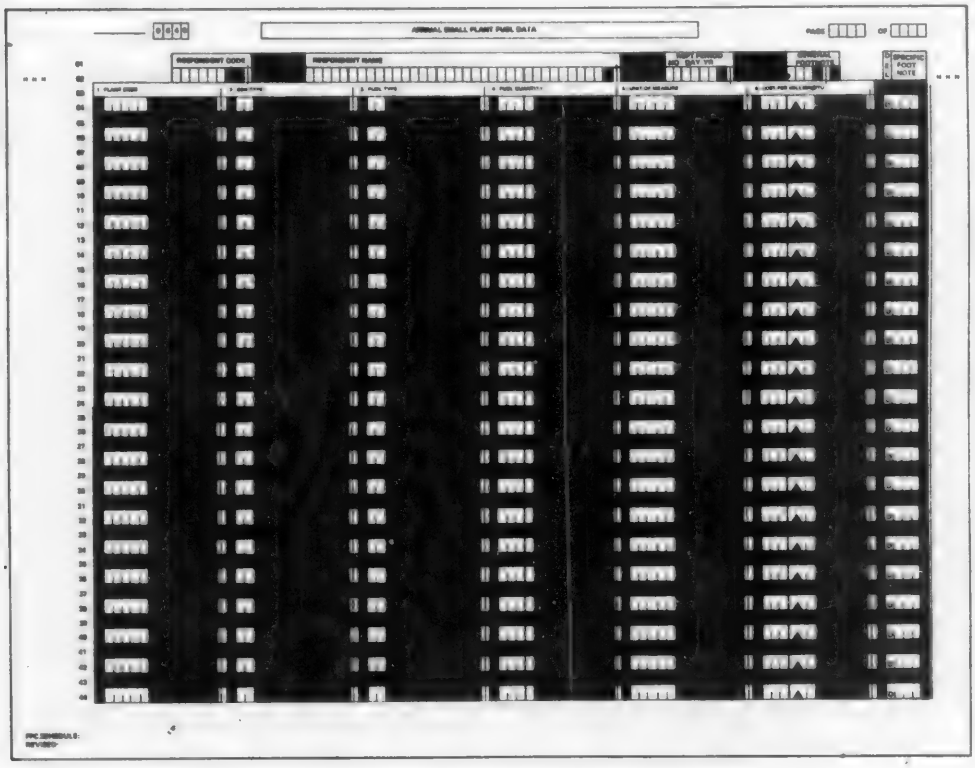

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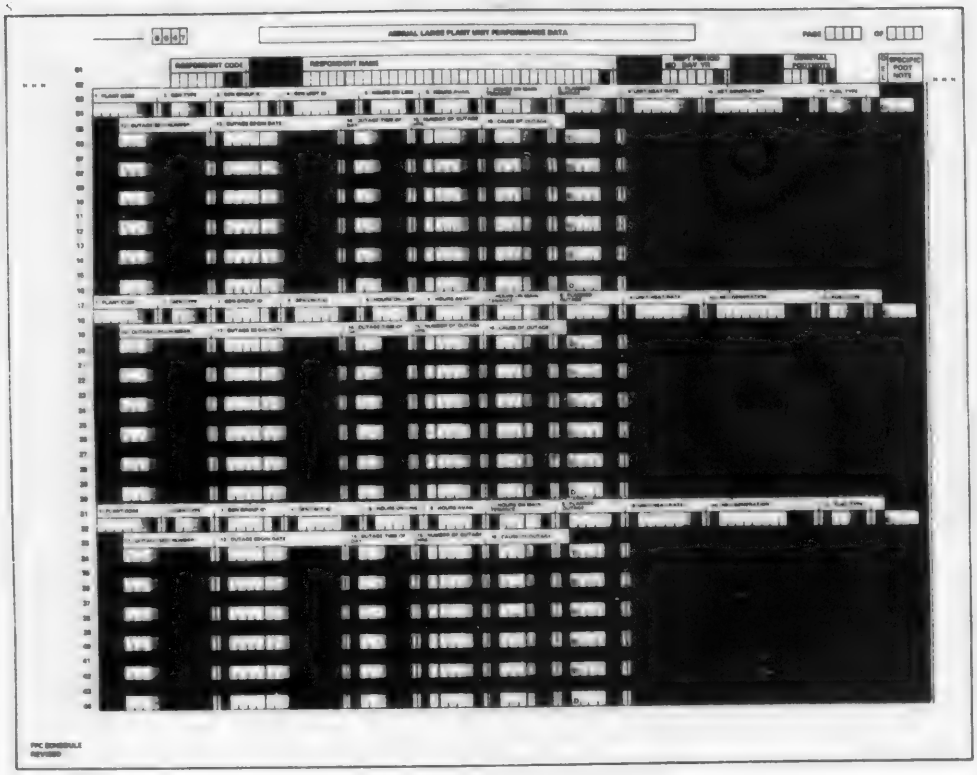

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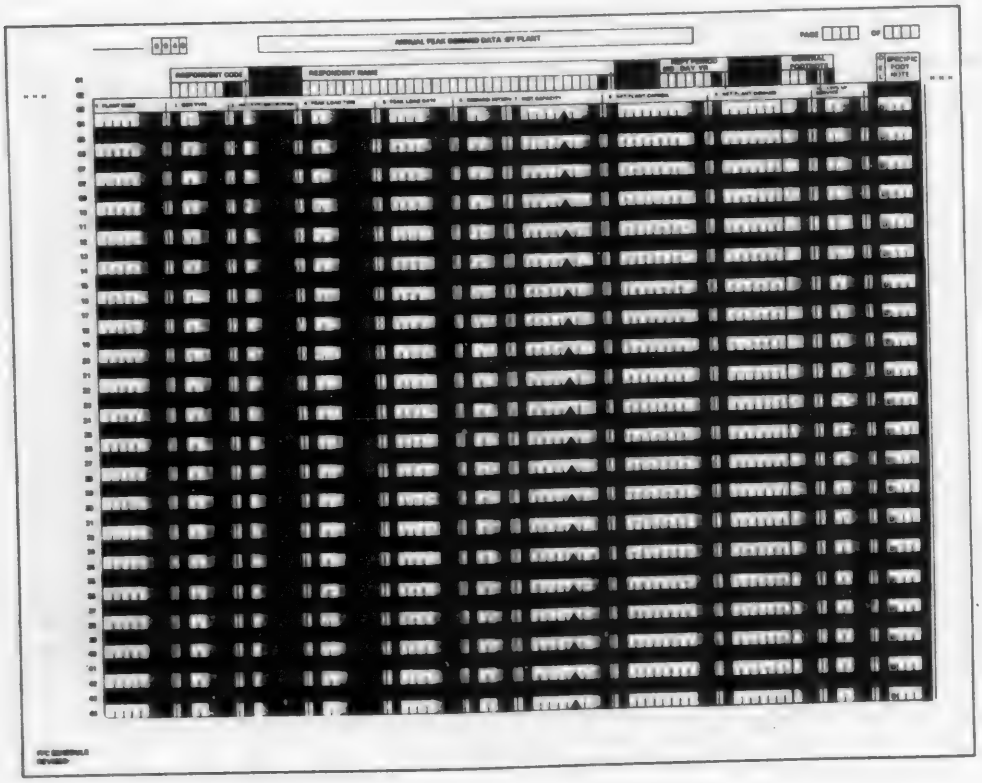

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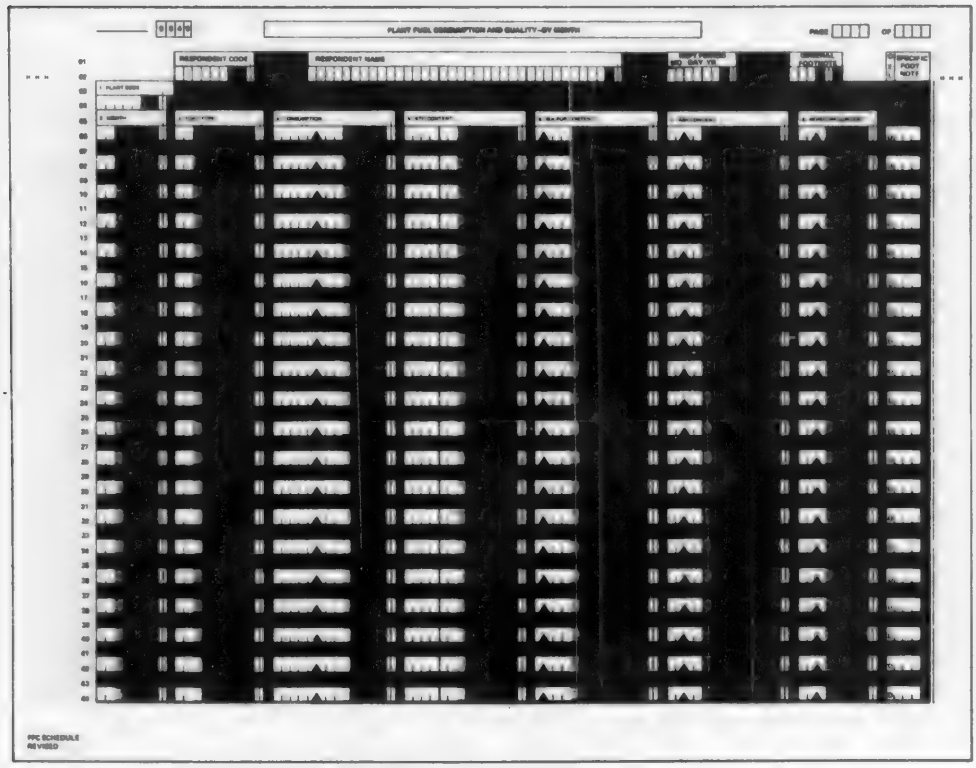

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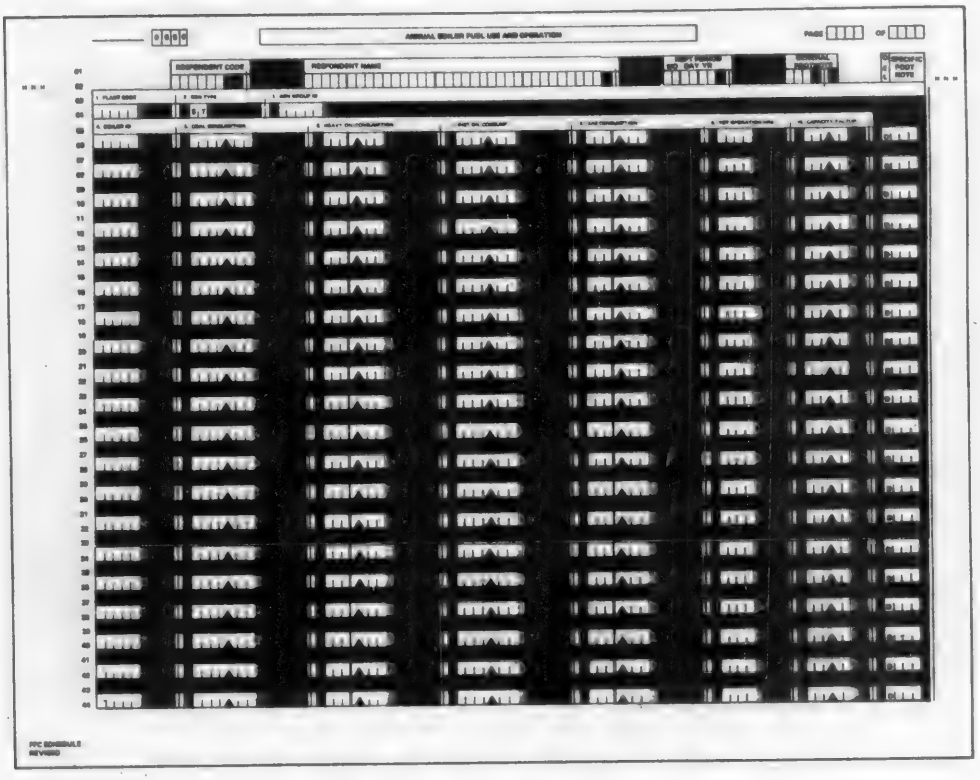

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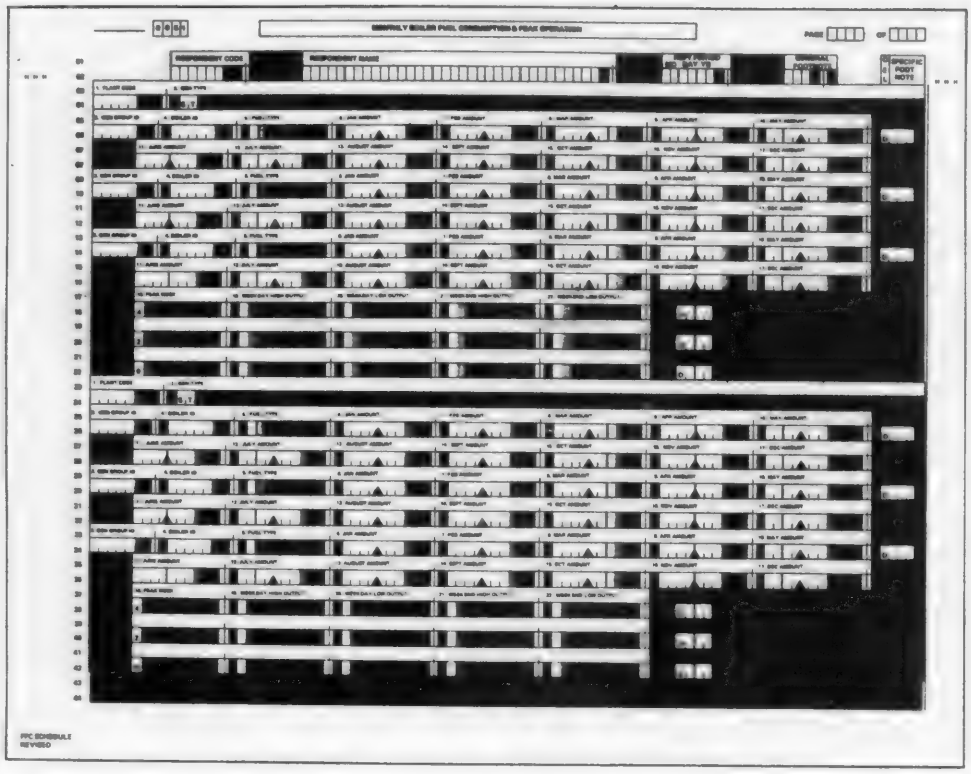

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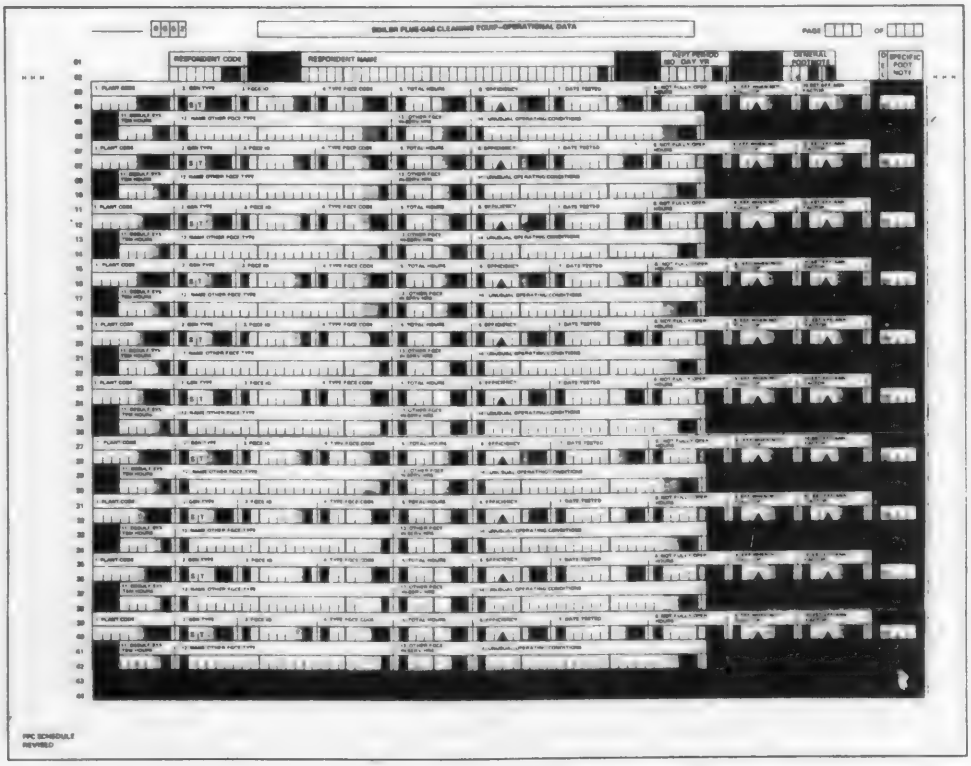

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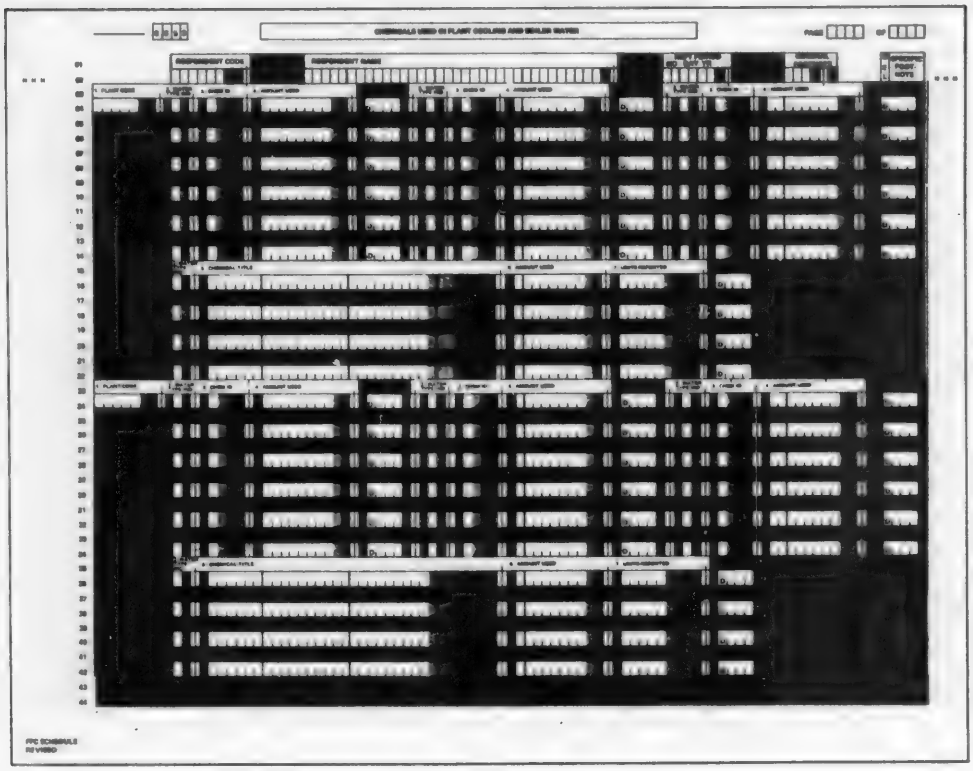

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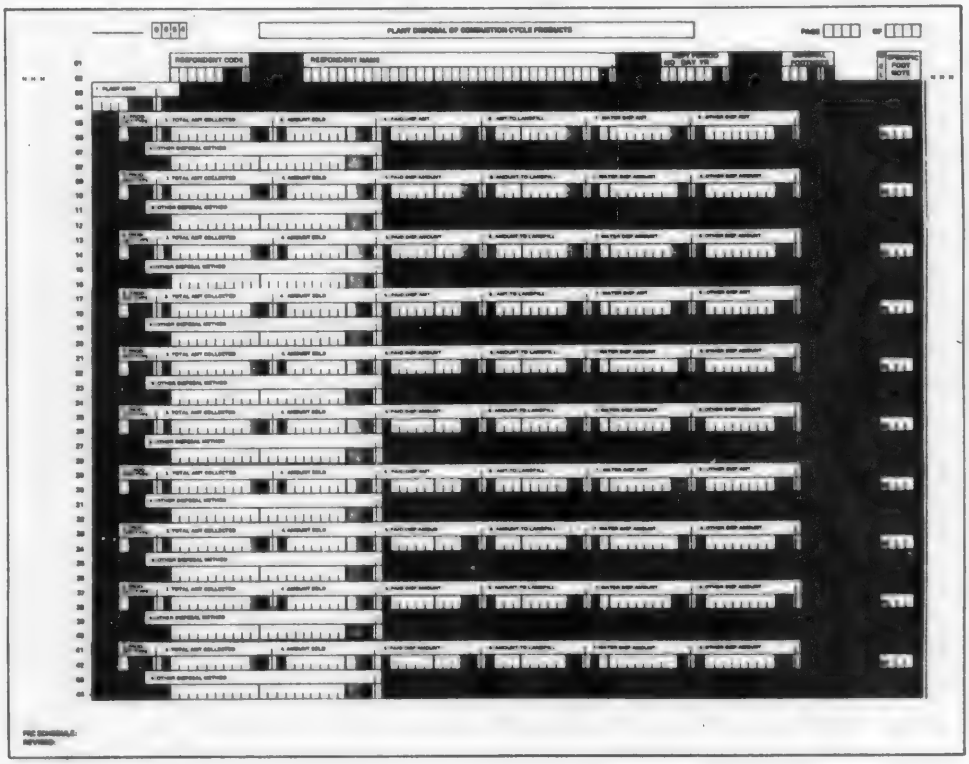

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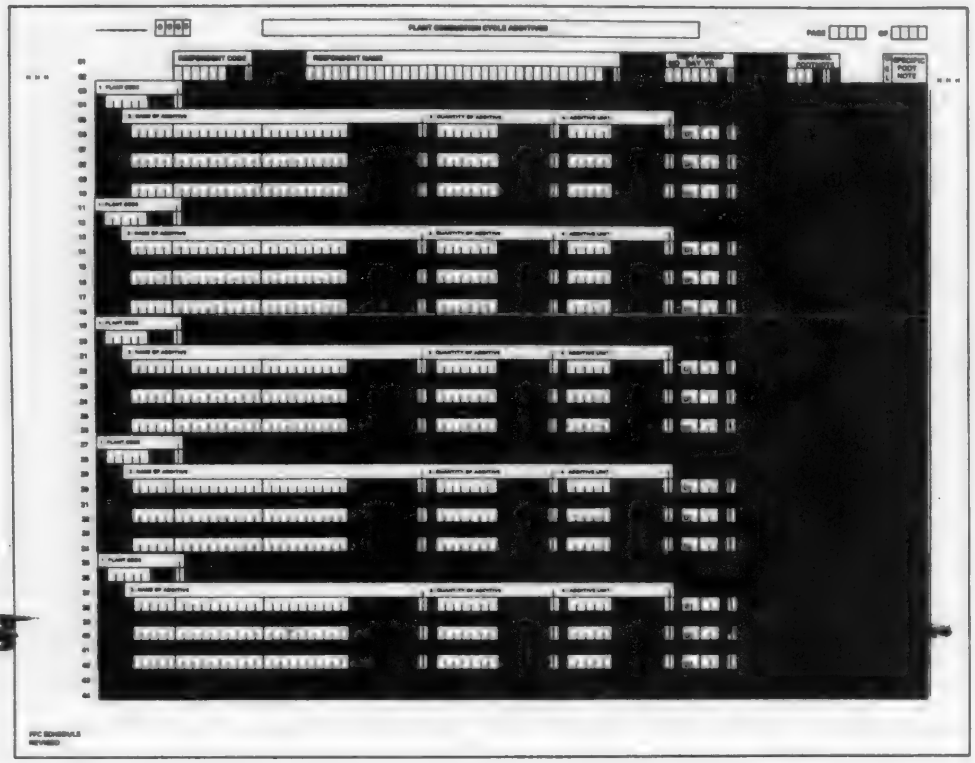

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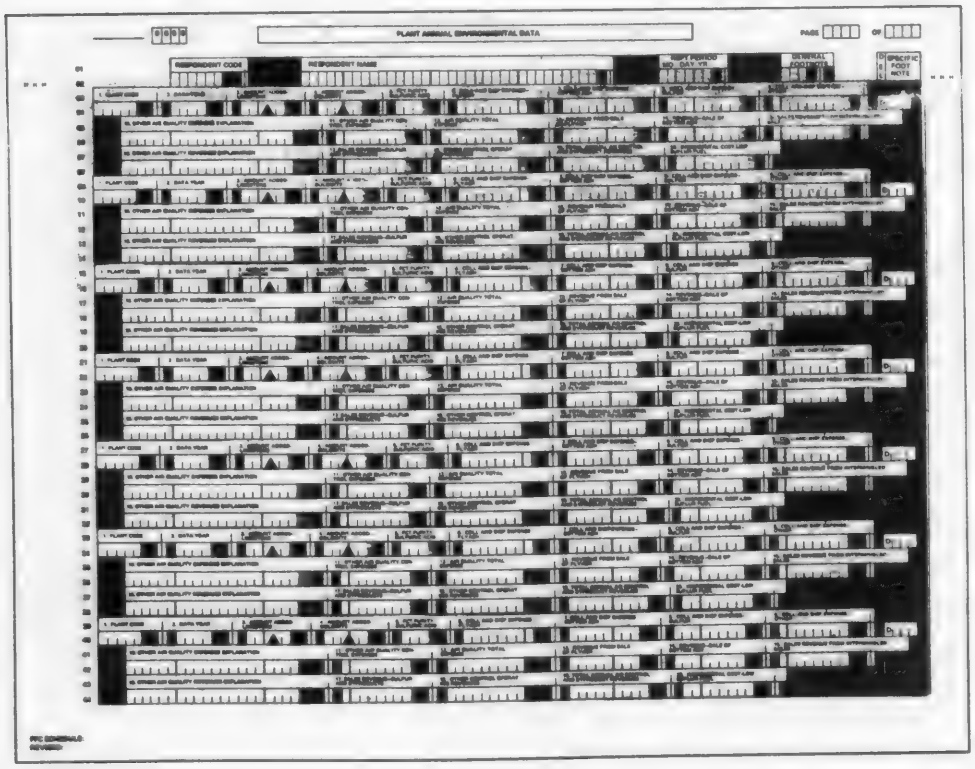

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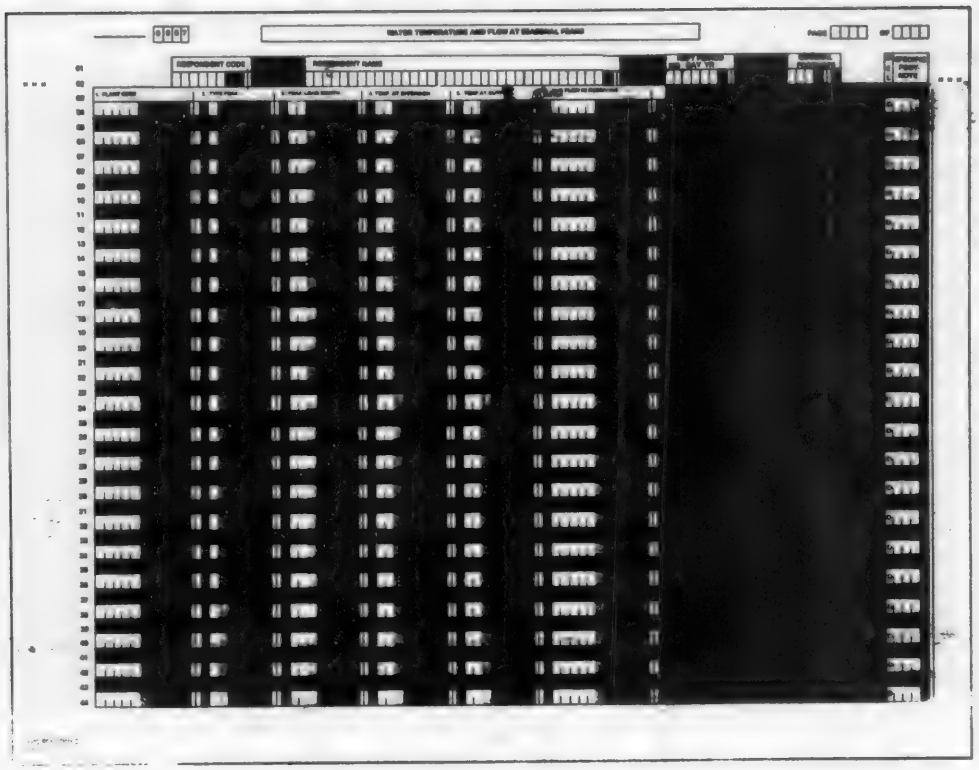

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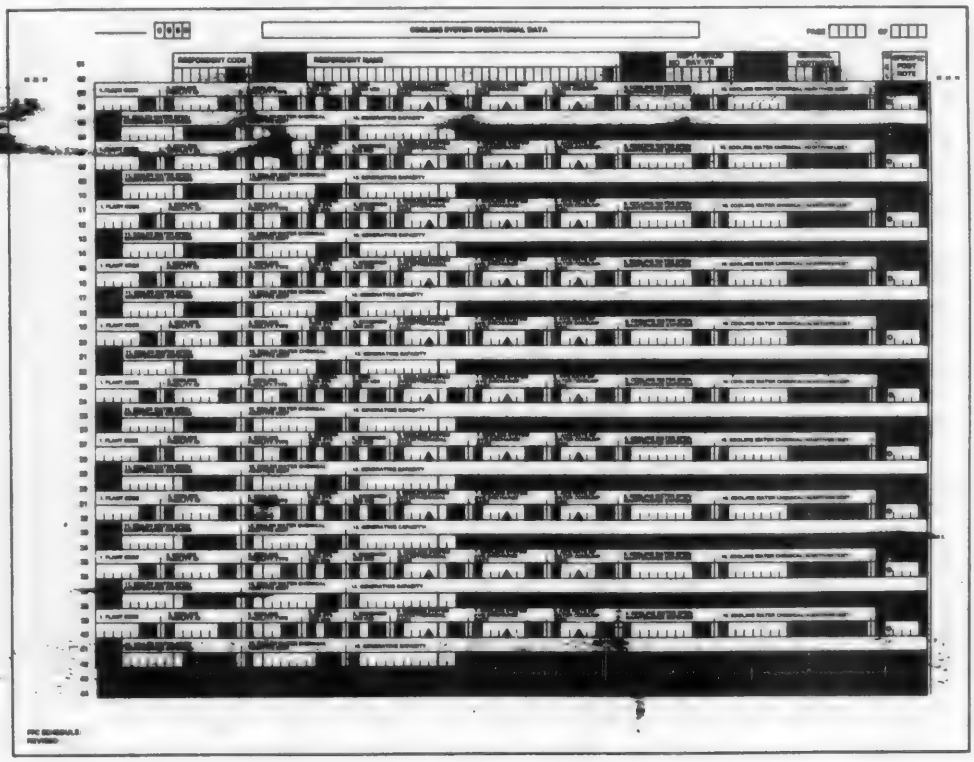

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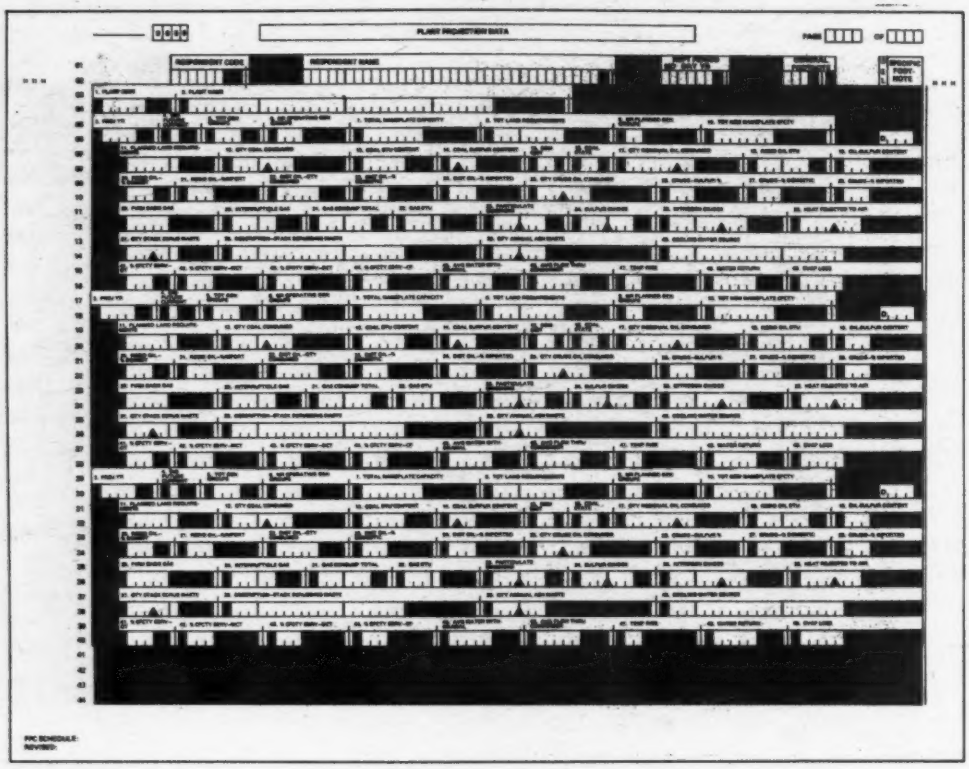

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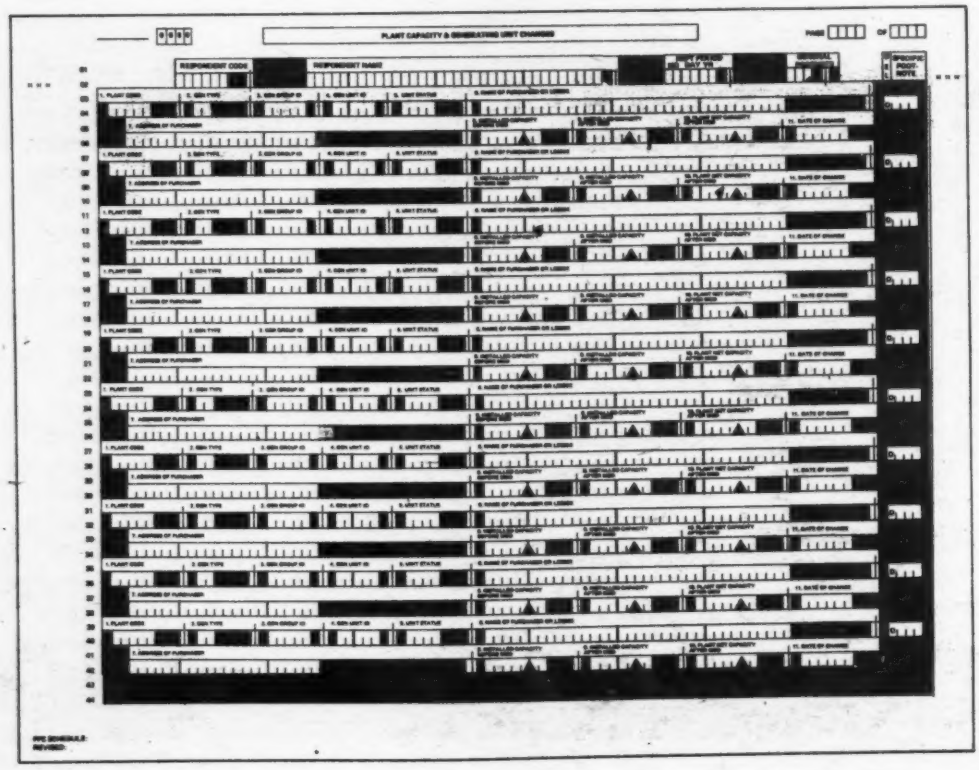

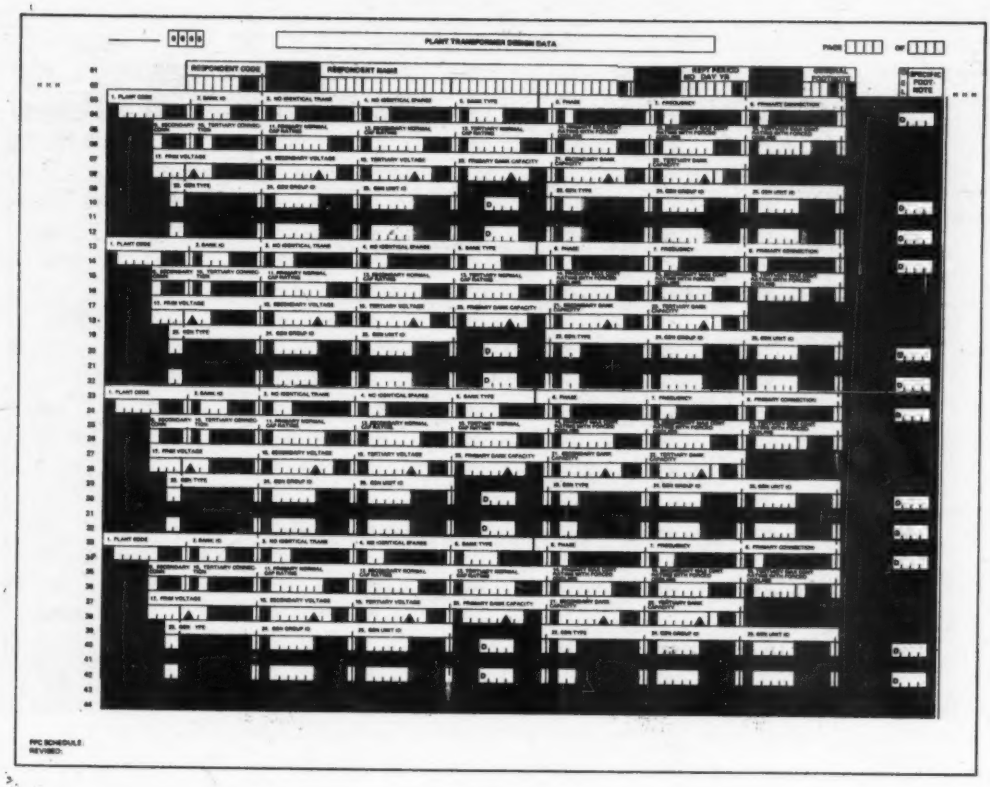

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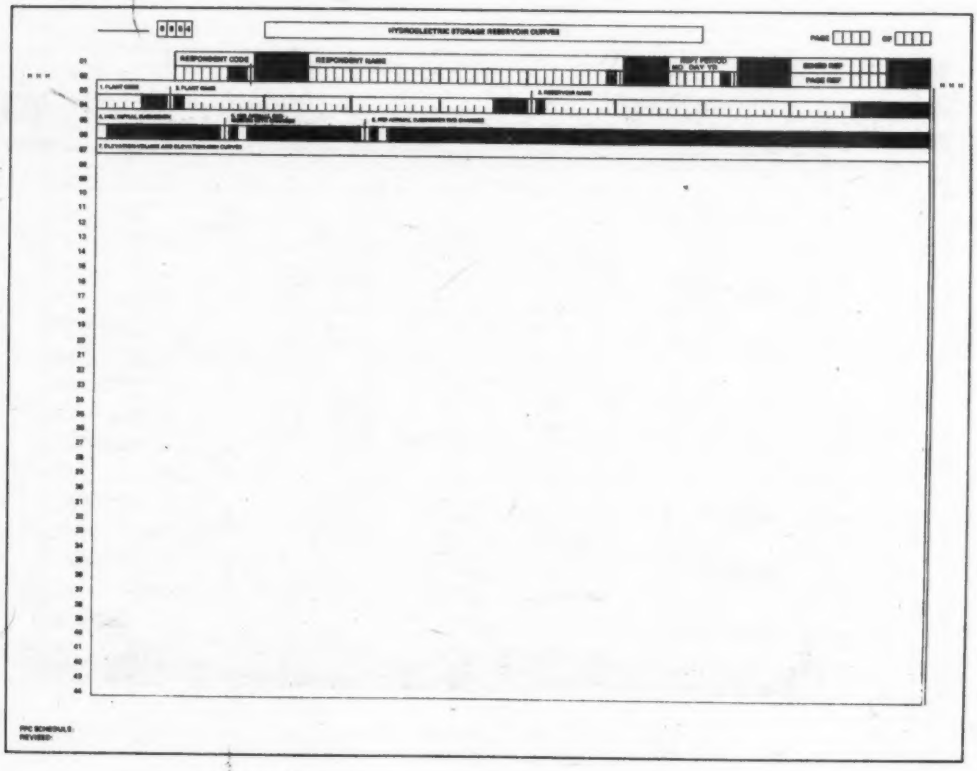

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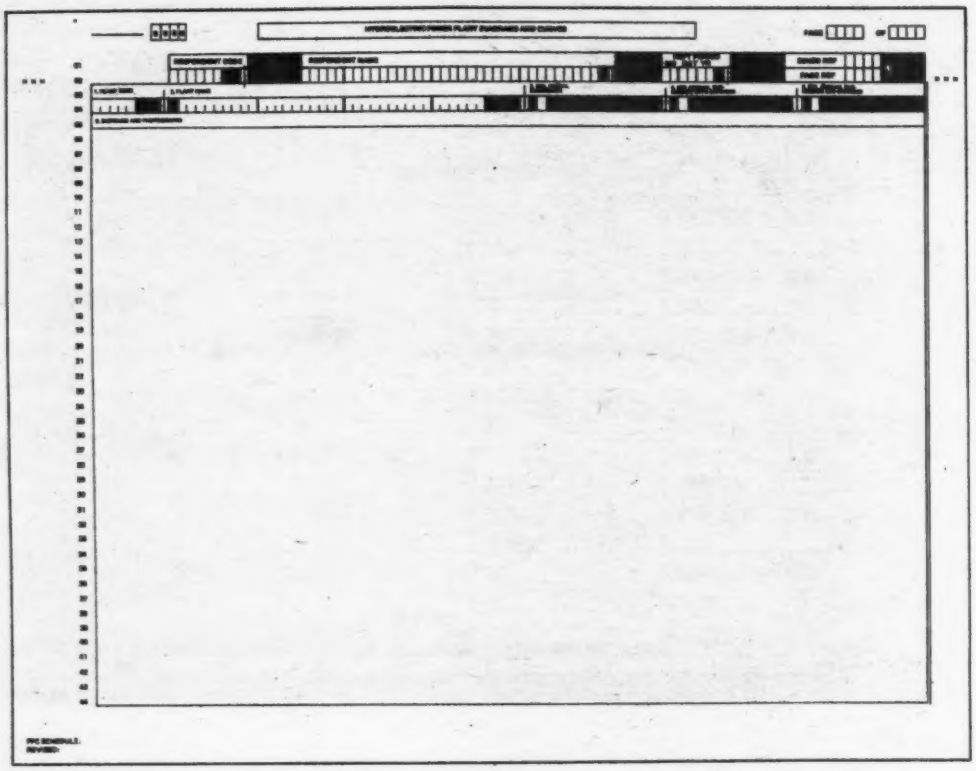

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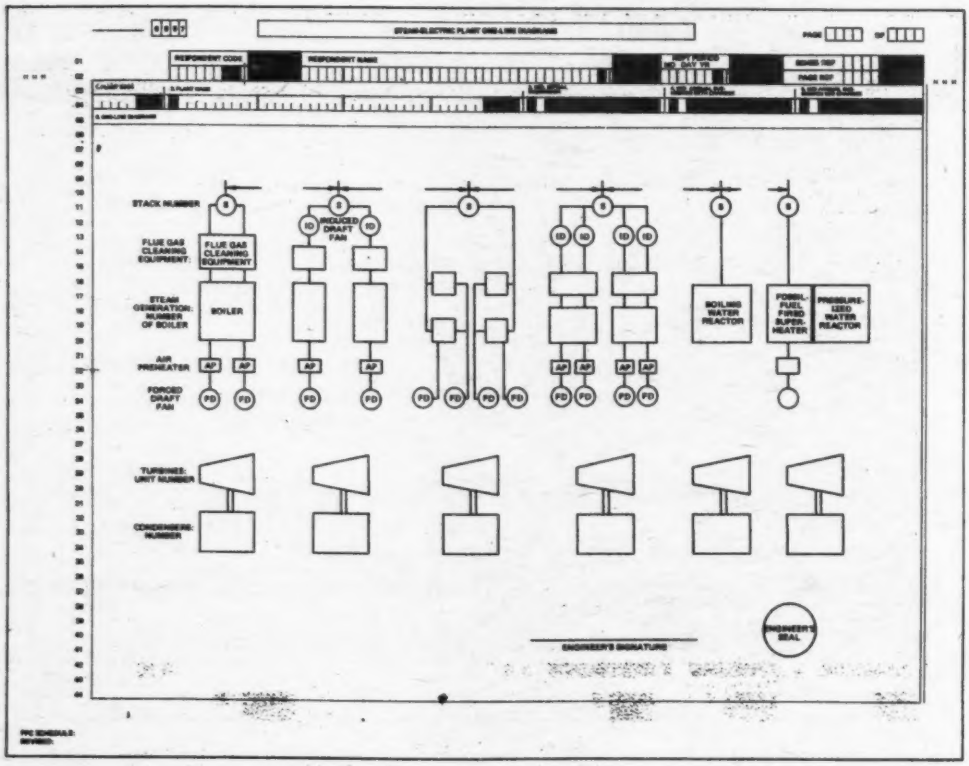

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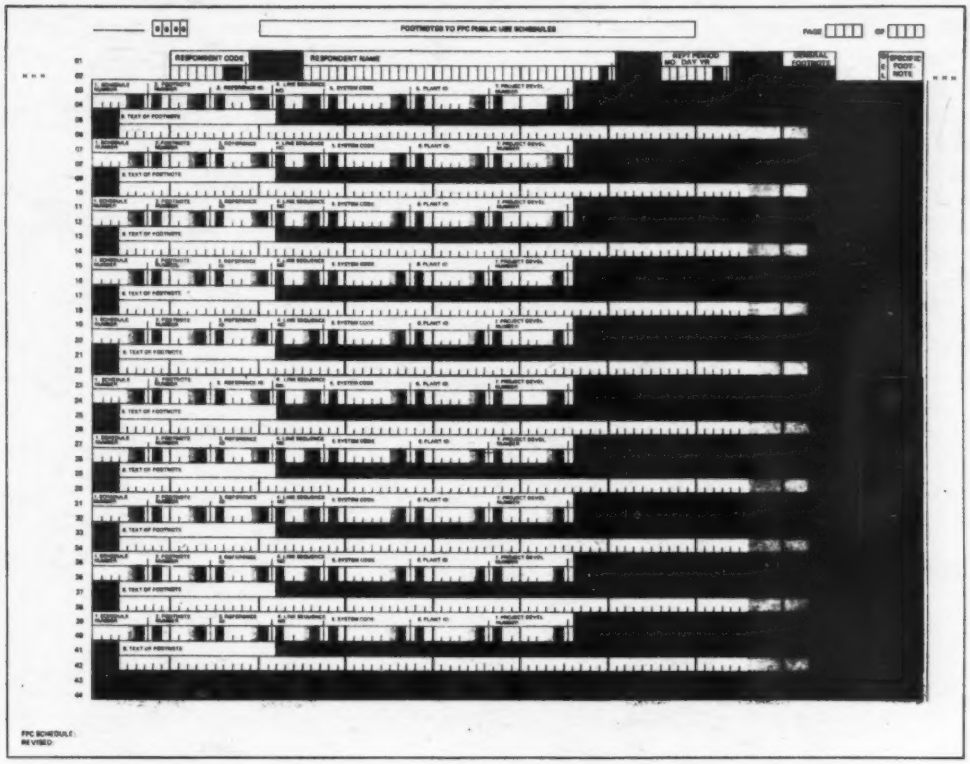

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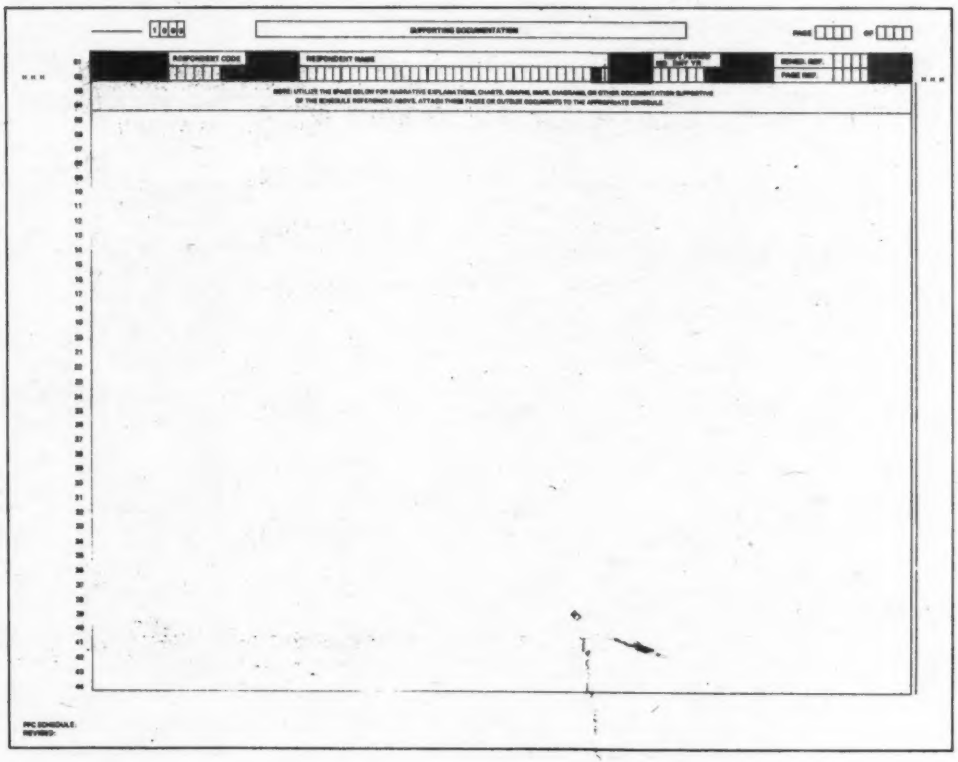

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[FR Doc.76-25182 Filed 8-31-76;8:45 am]